The Mining Journal

AND ATMOSPHERIC RAILWAY GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 562.---Vol. XVI.] LONDON: SATURDAY, MAY 30, 1846. [Price 6d.

CRONLLWYN SLATE QUARRY.—TO BE SOLD, BY AUCTION, by Messrs. T. WINSTANLEY and SONS, at the Clarendon Rooms, South John-street, LIVERPOOL, on Wednesday, 10th of June, 1846, at One o'clock in the afternoon, without reserve, to close an account, unless previously disposed of by private contract, of which due notice will be given, the LEASE of that valuable QUARRY, called the

CRONLLWYN SLATE QUARRY,

Situated at FISHGUARD, in Pembrokeshire, together with the BUILDINGS thereon erected, consisting of blacksmiths' and carpenters' shops, stables, powder magazine, &c. Also, the WATER-WHEEL, CIRCULAR SAWING MACHINE, PLANT, and MATERIAL for conducting and carrying on the business in a complete and efficient manner; included in which are several HUNDRED YARDS of TRAMROAD, WAGGONS, BARROWS, assorted TOOLS and IMPLEMENTS, &c.

The hill on which the quarry is situate, consists of 300 acres of land—the whole of which is applicable to quarrying purposes, and the quarry is thoroughly and scientifically opened. The slate is of excellent colour, and of a quality equal to any in the principality.

Twenty-seven years of the lease remain unexpired, at the very moderate annual rental of £50.

Fishguard being one of the termini of the South Wales Railway, there is every probability of an increased demand. The shipping port is safe in all weathers, and is within two miles of the quarry, and affords great facility for exports.

A careful estimate of the outlay and profits, for the first year, has been made by the superintendent of the works, which shows a clear net gain of upwards of £500, which would annually increase, as the quarry shall be more fully opened. The weekly wages for this first year would be under £26.

Samples of the slate may be seen at the offices of the auctioneers, Church-street, where, or on application to Mr. James Wason, solicitor, Wason-buildings, 4, Harrington-street, Liverpool, further particulars may be had, and an inventory of the plant, &c., obtained. 1

TO BE PEREMPTORILY SOLD, pursuant to an order of the High Court of Chancery, made in a cause, Scale *v.* Fothergill, Thompson, and others, with the approbation of the Hon. Sir George Rose, one of the Masters of the said court, at the public sale-room of the said court, at Gray's Inn Coffee house, Holborn, London, on Thurday, the 11th day of June, 1846, at Twelve for One o'clock, in one lot, the

LEASES, WORKS, ENGINES, LANDS, PLANT, AND EFFECTS, OF THE ABERDARE IRON COMPANY,

in the county of Glamorgan; and a WHARF, at Cardiff, in the county of Glamorgan, belonging to the said company. 2

Particulars and conditions of sale may be had (gratis) at the said Master's chambers, in Southampton-buildings, Chancery-lane, London; of Messrs. Sharpe, Field, and Jackson, solicitors, 41, Bedford-row, London; of Messrs. Gregory and Son, solicitors, 12, Clement's Inn, London; of Mr. Davies, solicitor, Merthyr Tydvil, Glamorganshire; and of Messrs. Maybery, Williams, and Cobb, solicitors, Brecon.

SHARPE, FIELD, & JACKSON, 41, Bedford-row,
Agents for Wm. Davies, of Merthyr Tydvil, Glamorganshire.

TO COALOWNERS, MINERAL AGENTS, ENGINEERS, &c.—In consequence of concentrating the drainage of Walbottle Colliery, and lifting the whole of the water from one shaft, there will SHORTLY BE FOR SALE, the THREE present PUMPING ENGINES, with pumps, and all other apparatus belonging thereto—the whole of which are in good condition, and may be seen working until about the middle of next month—viz.: 3

AT THE CORONATION PIT.

A high-pressure single-acting ENGINE, cylinder 47 in. diameter, stroke 8 ft., with three cylindrical boilers, 28 ft. long by 7 ft. diameter. One of the same size, with two longitudinal tubes, 2 ft. diameter. Four working barrels, lined with copper, 12 in. diameter, and 340 yards of common pumps, with shears, crabs, shear legs, gins, &c.

AT THE KING PIT.

A double-acting condensing ENGINE, cylinder 47 in. diameter, stroke 6 ft., with three haystack boilers, 15 ft. diameter. Four working barrels—viz., 13, 14, 15, and 16 in. diameter, all lined with copper, and 34 yards of common pumps to each barrel, with shears, crabs, shear legs, &c.

AT THE DUKE PIT.

A single-acting high-pressure ENGINE, cylinder 32 in. diameter, stroke 4½ ft., with one boiler (cylindrical), 23 ft. long by 5½ ft. diameter. One working barrel, 14½ in. diameter, lined with copper, and one 12 in., lined with brass, with pumps, shears, &c.

Also, a great QUANTITY of ENGINE and OTHER very useful MATERIALS, besides several TONS of CAST and MALLEABLE IRON.

Apply to Messrs. R. and W. Hawthorn, engineers, Newcastle; or to Mr. Oliver, at the colliery.—Walbottle Colliery, near Newcastle, May 8, 1846.

SOUTH STAFFORDSHIRE.

FORGE AND MILL TO BE LET.—TO BE LET, for a term of years, all that well-known FORGE and MILL, situated at the LEVEL IRON-WORKS, near Brierley-hill, Staffordshire, consisting of a complete FORGE, with ENGINE of 26-horse power, two powerful helves, 16 puddling furnaces, and every other requisite; a large and complete MILL, with ENGINE upwards of 50-horse power, with squeezers for puddled balls, a train of two pair of puddled ball rolls, two trains of small rolls, trains of merchant bar rolls, hoop rolls, rail rolls, excellent cutter train for rods, numerous shears, drilling machine, five heating furnaces, and excellent lathe, and conveniences of every description. Two upright boilers are worked by the heating furnaces for the mill engine. The rolls, floor plates, furnaces, working tools, and other property belonging to the present tenant, may be taken at a valuation when possession is given.

As the present tenant, in consequence of a recent death, would have no objection to retire, any person wishing immediate possession of the works, may have the same in its present working state, together with the orders and connections of long standing, which are sufficient to find a regular demand for the produce of the works. 4

The works may be viewed, and all further particulars known, by application to Mr. R. Smith, the Priory, Dudley; or to Mr. James Holcroft, at the Level Mill.

TO BE SOLD, BY PRIVATE CONTRACT, a 12-inch STEAM-ENGINE, a BOILER, a WINDING APPARATUS, about TWO HUNDRED and FIFTY TONS of TRAM-PLATES and SLEEPERS, of different sizes; a WATER BALANCE MACHINE, complete; FIFTY-FIVE IRON BASKETS, NINETEEN small SHEET-IRON WAGGONS, SEVENTEEN ditto TON WAGGONS, TWELVE large ditto TWO-TON WAGGONS, FORTY-FOUR TRAM CARRIAGES for baskets, THIRTY-FIVE WOODEN WAGGONS, FOUR WEIGHING MACHINES, FOUR SHIPPING CRANES, and a large FIELD ROLLER. 5

The above are now lying at Landore, near Swansea, and may be seen on application to the agent, on the premises; and for further particulars, apply to the Landore Colliery Company, Swansea.—Dated May 13, 1846.

ON SALE.—No. 1. A SECOND-HAND double power condensing MARINE ENGINE, with cast-iron framing and side beams; cylinder 32½-in. diameter, 3-feet stroke; air-pump lined with brass—no boiler; 52-horse power, with 7 lbs. pressure on the square inch.

No. 2. A SECOND-HAND double power condensing MARINE ENGINE, with cast-iron framing and side beams; cylinder 31-in. diameter, 3-feet stroke; air-pump lined with brass—no boiler; 47-horse power, with 7 lbs. pressure on the square inch.

No. 3. A double power condensing MARINE ENGINE, quite NEW, but unfinished, with cast-iron framing and side beams; cylinder 43-in. diameter, 3½-feet stroke; 91-horse power, with 7 lbs. pressure on the square inch—no boiler.

No. 4. A double power condensing LAND, BEAM, WINDING ENGINE; cylinder 22-in. diameter, 4½-feet stroke; hand-gear, with button valves, parallel motion, fly-wheel, waggon boiler, with all its fittings; door, grate, dead plate, &c.; two large cast-iron bell cranks and pedestals, with strong wrought-iron connecting rods, for pumping water from two lifts of pumps, 100 yards deep; two rope wheels, suited for flat chains; apparatus to throw in and out of gear; pit-head pullies, &c.; 23-horse power, with 7 lbs. pressure on the square inch. 6

No. 5. A NEW direct action ENGINE, double power, suitable for a corn mill, or winding in a coal or lead mine, with improved spring packing for piston; ditto ditto for nozzle valves; cylinder 15-in. diameter, 3½-feet stroke; 28-horse power, with 30 lbs. pressure on the square inch—no boiler.

No. 6. A double power LAND BEAM ENGINE; cylinder 20½-in. diameter, 4-ft. stroke. slide valve, parallel motion—no boiler, and quite NEW; 52-horse power, with 30 lbs pressure on the square inch—no boiler.

No. 7. A double power BEAM WINDING ENGINE; cylinder 15½-in. diameter, 3½-ft. stroke, with a cast-iron portable frame; slide valve, hand-gear, parallel motion, flat-rope wheel, spur and pinion wheels for the same; 29-horse power, with 30 lbs. pressure on the square inch—no boiler.

No. 8. A NEW double power direct action ENGINE, made to drive a paper machine; cylinder 7½-in. diameter, 18-in. stroke, new boiler, with fittings on ditto; grate, door, dead plate, &c.; fly-wheel, &c.; 6½-horse power, with 30 lbs. pressure on the square inch.

No. 9. A SECOND-HAND PUMPING ENGINE, with a cylinder 48-in. diameter, 7-ft. stroke in the house, and the same in the pit, with air-pump condenser; hand-gear, cistern, &c.; pumping three lifts of pumps 100 yards; working barrels, 14 in. diameter—no boiler; 113-horse power, with 7 lbs. pressure on the square inch.

No. 10. A WINDING ENGINE, on a cast-iron portable frame, double power; cylinder 14½-in. diameter, 3½-ft. stroke; spur and pinion wheels, rope wheels, fly-wheel, with friction band on ditto; grate door, dead plate, &c., complete, and no worse than new; 26 horse power, with 30 lbs. pressure on the square inch—boiler and fittings for the same.

NEW BOILERS, of any shape, can BE MADE, at a SHORT NOTICE, to SUIT any of the ABOVE ENGINES.—For further information, apply to

EYTON AND CO.,
MOSTYN FOUNDRY, NEAR HOLYWELL, FLINTSHIRE.

NOTICE TO INVENTORS.—OFFICE FOR PATENTS OF INVENTIONS AND REGISTRATIONS OF DESIGNS, 14, *LINCOLN'S INN-FIELDS, LONDON.* 7

The printed INSTRUCTIONS (gratis), and every information upon the subject of PROTECTION FOR INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (pre-paid), to Mr. Alexander Prince, at the OFFICE, 14, LINCOLN'S INN-FIELDS.

PENNANT LEAD AND COPPER MINING COMPANY,
DINAS MOWDDWY, COUNTY MERIONETH.
NOW IN WORK ON THE "COST-BOOK" PRINCIPLE.
6000 shares.—Deposit £1 per share.

COMMITTEE OF MANAGEMENT.
Joseph Carrington Ridgway, Esq., Roehampton Lodge, Roehampton
B. Forrester Scott, Esq., Park-street, Westminster
Calverley Richard Bewicke, Esq., Barsham House, Beccles
Charles Dunbar Atkinson, Esq., Wakefield
William W. Mansell, Esq., Dorchester-place, Blandford-square.

CONSULTING ENGINEER.
Thomas Kitto, Esq., jun., Civil Engineer and Mineral Surveyor, Redruth.

SOLICITORS.
Messrs. Pocock and Marston, 10, Norfolk-street, Strand.

BANKERS.
Messrs. Cocks, Biddulph, and Biddulph, London.

OFFICES—No. 4, SALISBURY-STREET, STRAND, LONDON. 8

PROSPECTUS.

Pennant Lead and Copper Mine sett extends over about 900 acres, and is situated in the centre of the lordship of Mowddwy, county Merioneth, which is admitted to be one of the richest mineral deposits in the kingdom. It is held under lease from the lord of the said manor, at the usual royalty of 1-10th, for a term of 21 years, renewable for the same period, on payment of a fine.

Pennant is in the immediate vicinity of the mines, on the same manor, of Craigwen, Foel Rhydd, and Cowarch, which are in course of most satisfactory working, and producing ore, which yields from 70 to 80 per cent. of lead, in addition to a considerable quantity of silver. These facts, of themselves, are sufficient to show the value of the property; and as nearly all the lodes on these setts cross Pennant, there is every reason to expect an equally favourable result; while the rapidly-increasing value of lead encourages the more extensive expenditure in the workings, which a company would do. It is a well-known fact, that the requirements of lead follow those of iron; and it is almost superfluous to allude to the extraordinary and increasing demand which exists for the latter.

The backs of several of the veins have been exposed, and an adit is in course of driving.

The high road from Bala to Mallwyd runs along the sett, and the River Dovey is at the base of the mountain. It is about 12 miles from the port of Derwen Las; but, as various projects are before the public for railway communication in this district, there is little doubt but that a short time will furnish direct and speedy transit to London, Liverpool, &c., and wholly supersede the necessity of having recourse to water carriage.

The bill for the Worcester and Porth Dynllaen Railway, brought forward by the Great Western Railway Company, has been read a second time in the House of Commons. The line runs near to the Pennant Mine, as shown on the map.

There is an abundant supply of water for every description of machinery, and as the lodes are in the mountains, the fact of driving adits unwaters the mine, and does away with the necessity of steam or other power for that purpose, which is so expensive and troublesome an operation in Cornwall, and other places where the country does not furnish such natural facilities.

The object of the company is to develope and bring into full work the various resources of this sett, and to be in a position to make arrangements in respect to other setts, should the shareholders hereafter so determine. The capital formed from the payment of deposits will be fully sufficient to work the Pennant sett.

The operations of the company are carried on under the "cost-book" principle, which exempts the company from the provisions of the Act for the Registration of Joint-Stock Companies (7 and 8 Vic., cap. 110), the 63d section of which enacts:—

"Provided always, and be it enacted, That nothing in this Act contained shall extend, or be construed to extend, to any partnership formed for the working of mines, minerals, and quarries, of what nature soever, on the principle commonly called the cost-book principle."

The capital realised from the deposit is considered a sum sufficient to bring the undertaking into a paying state; but, in the event of more being required for general purposes, the 16th clause of the "cost-book" provides—

"That no further call than that authorised by the fourth resolution (the deposit) shall be made before the 1st day of January, 1847, and that three months' clear notice of every future call shall be given by the purser for the time being, by circulars to be sent to each adventurer or shareholder, by post—provided always that a period of three calendar months shall elapse between the making of any two calls, and that no call shall exceed the sum of £1 per share."

Under the "cost-book" principle, shareholders have the right of determining their responsibility by giving notice of their intention to relinquish their shares, and on forfeiture of all previous payments. The 21st clause states—

"That any adventurer or shareholder may determine his or her responsibility or liability, with respect to the affairs of this mine, upon his, or her, giving notice, in writing, to the purser of the company for the time being, of his, or her, desire of retiring from the company; and also upon depositing with the said purser the share or shares held by him, or her, and signing a relinquishment of all claims or demands on the company in respect to such share or shares."

For the original purchase of the grant, the sum of 2500*l.* will be required; and, in consideration of the works done in developing the mine, and of the transfer to the company of the lease of Pennant, with all its rights and privileges, the present lessee to have 600 paid-up shares, in addition to the sum of £300, which he has already paid for working and other expenses.

Applications for shares to be made to the purser, at the offices of the company, No. 4, Salisbury-street, Strand; to the solicitors, Messrs. Pocock and Marston, No. 10, Norfolk-street, Strand; or Charles Godwin, Esq., 2, Royal Exchange-buildings, where prospectuses, reports, maps, and every information may be obtained.

VENTON GIMPS MINING COMPANY.
(ON THE COST-BOOK SYSTEM.)

PROVISIONAL COMMITTEE OF MANAGEMENT.
JAMES HAY, Esq.
ABRAHAM LINDO MOCATTA, Esq.
GEORGE MACKAY, Esq.

OFFICE—No. 4, AUSTINFRIARS, LONDON.

This company is proposed to be formed for working the mining setts, called "Venton Gimps," situate in the parish of Perauzabuloe, in Cornwall, which extend about 400 fathoms, from east to west, on the well-known Chiverton lode. It was first secured in 1844 by the directors of the late Cornubian Company. A shaft was then sunk to the 18 fathom level, and excellent silver-lead ore raised, of which about 25 tons were sampled and sold during the month of December in that year, and again in January and February 1845; but while the tribute was set, going down upon the 18 fathom level, upon an improving lode worth 20*l.* per fathom, the great increase of water (in the absence of any pumping engine) brought the operations to a stand still, as may be seen, by referring to the reports which appeared in the *Mining Journal*, and also in *Herapath's Journal*, on the 1st and 8th of February, 1845.

The dissolution of the Cornubian Company having presented a most favourable opportunity of securing, for the effective prosecution of the works at Venton Gimps, the superior 50-inch cylinder engine, and other needful materials, the provisional committee at once entered into negociation with the late directors of that company, for the purpose of securing the setts and taking over, at a fair valuation, all the machinery and plant. These negociations having led to the desired result, the committee immediately appointed an experienced purser and a good working captain, and caused a public survey to be held on the 7th of last April, at the Venton Gimps Mine, when the setting was completed, on very favourable terms, for sinking a new engine-shaft, clearing out the foundation of the engine-house, boiler-house, &c., the carriage of the engine, &c., and every other necessary arrangement for the most active development of the mine.

The gentlemen forming the provisional committee, having satisfied themselves by the ore already raised and sampled, by the recent discoveries on the same lode further westward (by the Great Calestock Mining Company), and by the opinions of experienced captains resident in the neighbourhood, that these setts may, ere long, produce a most valuable silver-lead mine, did not hesitate to order at once the works to be thus vigorously begun; and they have also determined that the adventure shall not be hampered with unnecessary expenses in London, and that the body of shareholders shall, at no time, be shut out from a perfect knowledge of all the affairs of the mine.

For this purpose the cost-book system is to be frankly and fairly carried out, a committee of management appointed, composed of five shareholders, duly qualified, two to go out of office annually, but subject to re-election by the general meeting. The first committee of management to consist of the before-named gentlemen, viz.:—

JAMES HAY, Esq.
ABRAHAM LINDO MOCATTA, Esq.
GEORGE MACKAY, Esq. 9

And two other gentlemen duly qualified, to be elected by the shareholders at the first general meeting.

This management to be *wholly gratuitous, until the mine shall become a profitable adventure*, and then any remuneration to be determined by the votes of the shareholders.

In addition to the annual general meeting, the adventurers shall be convened regularly every two months throughout the year, for the audit of accounts, and the transaction of any other needful and incidental business.

The provisional committee have divided the company into 1000 shares, considering that to be, under all the circumstances, the best number for a company, expected to be chiefly composed of parties residing in London.

Estimates, which they have caused to be carefully prepared on the spot, by mining agents of great experience, show that an outlay of about £5000 will suffice to work the mine and fairly develope its resources at the 50 fathom level; and, to meet the purchase of machinery, &c., a contribution of £2 per share will be at once required, and a further call of £1 on the 1st of next July.

The usual cost-book regulations for this company are being drawn up, and applications for shares must be sent in on or before the 30th of this present month.

So soon as a sufficient number of shareholders shall be obtained, the committee will call the first general meeting, and lay before it all such matters as may require their deliberation and approval. By order of the provisional committee,

London, May 1, 1846. J. J. ISELIN, Hon. Sec.

N.B.—Applications for shares, or further particulars, may be obtained of Mr. Iselin, as above; or of Mr. Richard Thomas, 8, George-yard, Lombard-street.

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.
Apply to Mr. CAPPER, ENGINE-MAKER and FOUNDER, BIRMINGHAM.
Price.....£14 per horse-power. 10

MR. H. B. RYE (from Cornwall), MINE AND RAILWAY SHARE AGENT, 80, OLD BROAD STREET, LONDON.
Mines inspected, and every information may be obtained on application. 11

THOS. P. THOMAS, of the late firm of RYE and THOMAS, MINE AGENT, AND DEALER IN RAILWAY AND OTHER SHARES, 80, *OLD BROAD-STREET, LONDON.* 12

JAMES LANE, SHARE AGENT, *HALL OF COMMERCE, LONDON.* 13

WILLIAM TRENERY, DEALER IN RAILWAY AND MINING SHARES.—ESTABLISHED TEN YEARS.
OFFICES, No. 30, THREADNEEDLE-STREET, LONDON. 14

PAUL RABEY, JUN., AND CO., MINE AND RAILWAY SHARE AGENTS.
OFFICE—No. 12, COPTHALL-COURT, LONDON. 15

WILLIAM FOX AND SON, No. 53, CASTLE-STREET, LIVERPOOL, have always on SALE PIG-IRON, RAILWAY BARS, CHAIRS, and IRON of every description.—TIN PLATES, WIRE, &c. 16

MESSRS. LAMOND, SMALE, and LAMOND'S PUBLIC SALE OF RAILWAY SHARES, &c., are HELD, at the Hall of Commerce, Threadneedle-street, every TUESDAY and FRIDAY, at One o'clock precisely.—Orders received until Four o'clock of the day prior to sale.—London, May 22, 1846. 17

MINING OFFICES, REMOVED FROM 16, CORNHILL, to 1, THREE KING COURT, LOMBARD-STREET.—Mr. R. TREDINNICK (of Cornwall), having established PRACTICAL AGENTS and CORRESPONDENTS in every MINING DISTRICT, whereby he obtains early and accurate information respecting MINES, proffers his services to capitalists and adventurers in the PURCHASE and DISPOSAL of SHARES. 18

MINING PROPERTY.—CAPITALISTS who are disposed to INVEST in CORNISH and FOREIGN MINES, will find the present opportunity very favourable for so doing. From large sums having been lately diverted from such investments for railway speculations, standard mines are now selling at prices that will pay the purchaser 20 per cent. per annum for his outlay. There are also other mines that are on the eve of paying dividends, which can be recommended with confidence.

Applications to be made to Mr. JAMES HERRON, mining agent, No. 3, Adam's-court, Broad-street, London. 19

VALUABLE LEAD MINE.—TO BE LET, BY TENDER, the MOIETY of that very productive LEAD MINE, now being worked, situated at WESTON-SUPER-MARE, in the county of Somerset. It promises to yield the most profitable returns, as the ore produced is of the finest and most valuable quality, and in great quantities, containing portions of gold and silver.

Tenders (post-paid), offering terms, with ample securities, must be addressed to Wm. Bushell, Esq., Pen Park House, Westbury-upon-Trym, near Bristol.

Apply to Mr. Brickman, High Cliff House, Weston-super-Mare, for tickets to see the mine, on Tuesdays and Thursdays.—May 29, 1846. 20

LEAD MINES, NEAR MOLD, in the county of FLINT.—TO BE LET, for such a term of years as may be agreed upon, all that well-known MINING DISTRICT, the property of P. Davies Cooke, Esq., situate in the neighbourhood of Mold, comprising several VEINS of LEAD ORE, some of which have lately been worked most extensively—others have only been partially opened, and bear a very promising appearance. Amongst the latter is the Erw-r-Felin Mine, being a parallel vein with, and situate between, two most productive veins; the Penyfwn, lately worked by the Mold Mines Company; and the Hendre Wood vein, now in full operation, and producing large quantities of lead ore.

The Erw-r-Felin Mine is only opened to the depth of 20 yards below the day level (the total depth from surface being only 45 yards), and is unwatered by a powerful and substantially-erected water-wheel, which is abundantly supplied with water from the River Alyn—the power being equal to at least ten times the feeders belonging to the mine. This mine has produced several very fine bunches of lead ore, on the crop of the vein; and, to all appearance, will prove very productive in the deep. The sinking was discontinued (through a disagreement amongst the late proprietors) before cutting through the shale into the under strata, where it is expected to make a large body of ore. 21

This is well worthy the consideration of adventurers, as a very small capital is required to make an effectual trial; and, according to the opinion of some of the most experienced mine agents in that neighbourhood, there can but little doubt be entertained of its proving a profitable speculation.—For further particulars apply to Mr. Edward Williams, Bronyfannor, Mold, Flintshire.—Mold, May 27, 1846.

TO IRONFOUNDERS AND OTHERS.—A RARE OPPORTUNITY now OFFERS of ENTERING upon the IRON and BRASS FOUNDRY BUSINESS, in one of the most improving towns in the United Kingdom.—TO BE LET, OR SOLD, a small IRON FOUNDRY and MANUFACTORY OF GRATES, &c., in full work, in the ISLE OF MAN. The steam-engine (condensing), blower, and machines, are all nearly new, and the foundry is fitted up in the most approved and effective manner. The business is steadily increasing, with prospect of rapid improvement. The only reason for the proprietor wishing to dispose of it, is on account of his being engaged in another department, which requires his attention. Immediate possession may be had. This is a genuine concern, and worthy of attention. Wages are low—no income or assessed taxes—and the locality is particularly healthy.

Apply to Messrs. Perrin and Son, Liverpool; Thomas Wilson, Esq., Douglas; or Mr. F. Ward, Ironmonger, Douglas, Isle of Man. 22

ANGLO-MEXICAN MINT OFFICE, 5, Broad-street-buildings, May 25, 1846.—Notice is hereby given, that the HALF-YEAR'S DIVIDEND voted at the Annual General Meeting, held on the 5th inst., will be PAYABLE on and after the 2d of June next. Claims to be made, and certificates presented, three clear days previous to payment.—Printed forms of claim are to be obtained at the office. Hours of attendance, Eleven to Three. G. B. LONSDALE, Secretary. 23

MEXICAN AND SOUTH AMERICAN COMPANY, 10, New Broad-street Mews, May 25, 1846.—The ELEVENTH ANNUAL GENERAL MEETING of the proprietors of shares in the Mexican and South American Company will be HELD at the office of the Anglo-Mexican Mint Company, No. 5, Broad-street-buildings, on Wednesday, the 10th day of June next, at One o'clock precisely.

At this meeting a director will be elected, in the place of J. D. Powles, Esq., who retires by rotation, but is eligible to be re-elected. 24

H. W. SCHNEIDER, Managing Director.

COLOMBIAN MINING ASSOCIATION.—The TWENTY- FIRST ANNUAL GENERAL MEETING of the proprietors of the Colombian Mining Association will be HELD at the office of the association, 13, Austinfriars, on Thursday, the 18th of June next, at Two o'clock precisely.

By order of the board of directors, L. R. JONES, Sec. 25

Office, 13, Austinfriars, London, May 28, 1846.

CALLINGTON MINES COMPANY.—At a Meeting, held this day, at the offices of the company, 44, Finsbury-square, RICHARD HODGSON, Esq., in the chair, the Rules and Regulations proposed at the last meeting were unanimously confirmed and adopted.—May 29, 1846. 26

CORNUBIAN MINING COMPANY.—The shareholders are informed, that, consequent upon the dissolution of this company, a FINAL PAYMENT of TWELVE SHILLINGS and SIXPENCE per share will be made at this office to the holders of shares, on Wednesday, the 5th of August next, and succeeding Wednesdays, between the hours of Twelve and Three o'clock.—Certificates of shares must be left at this office three clear days before the 31st July, in order that the numbers may be verified.—44, Finsbury-square, May 26, 1846. 27

WEST WHEAL JEWEL MINING ASSOCIATION.— Notice is hereby given, that a CALL of TEN SHILLINGS per share has been made, in conformity with the Deed of Settlement, PAYABLE on or before the 6th July next, into the banking-house of Messrs. Fraed and Co., Fleet-street, to the credit of the association, with Messrs. Tweedy and Co., Truro; into the bank of the said firm at Truro; or at the office of the association, as under. By order of the board,

57, Old Broad-street, May 13, 1846. WM. NICHOLSON, Secretary. 28

N.B.—The call advertised as payable on the 27th June, owing to its having been omitted in one of the Cornish papers, was illegal.

NOTICE TO THE PROPRIETORS AND SHARE- HOLDERS OF MINES, SMELTING-WORKS, &c.

Messrs. MITCHELL and FIELD beg to inform the PUBLIC, that they have REMOVED from No. 5 A to No. 23, HAWLEY-ROAD, KENTISH TOWN, where they have erected a spacious LABORATORY, fitted expressly for the performance of all OPERATIONS CONNECTED WITH MINING.—Practical instruction to gentlemen in Assaying, Mineral Analysis, and Manufacturing Chemistry in general. 29

Assays and Analyses conducted as usual.

All communications to be addressed to Messrs. Mitchell and Field, assayers, No. 23, Hawley-road, Kentish Town.

COMPLETION OF WILME'S HAND-BOOK FOR MAPPING, &c.—This day is published, price 6s., PART VI., being the last part, containing 9 large folding Plates, 78 pages of Letter-press, 39 Woodcuts, Introduction, Index, and full Instructions for LITHOGRAPHING and ZINCOGRAPHING Plans and Drawings.

Published by J. Weale, 59, High Holborn; and at the Railway Plan Drawing Offices, 15 Featherstone-buildings, Holborn. 30

The Shipbuilders' Song.

The sky is ruddy in the east,
The earth is gray below,
And, spectral in the river-mist,
Our bare white timbers show.
Up!—let the sounds of measured stroke
And grating saw begin;
The broad axe to the gnarled oak,
The mallet to the pin!

Hark!—roars the bellows—blast on blast—
The sooty smithy jars,
And fire-sparks rising far and fast
Are fading with the stars.
All day for us the smith shall stand
Beside that flashing forge;
All day for us his heavy hand
The groaning anvil scourge.

Gee up!—Gee ho!—the panting team
For us is toiling near;
For us the raftsmen down the stream
Their island barges steer.
Rings out for us the axeman's stroke
In forests old and still—
For us the century-circled oak
Falls crashing down his hill.

Up!—up!—in nobler toil than ours
No craftsmen bear a part;
We make of Nature's giant powers
The slaves of human Art.
Lay rib to rib, and beam to beam,
And drive the trunnels free;
Nor faithless joint nor yawning seam
Shall tempt the searching sea!

Where'er the keel of our good ship
The sea's rough field shall plow—
Where'er her tossing spars shall drip
With salt spray caught below—
That ship must head her master's beck,
Her helm obey his hand,
And seamen tread her reeling deck,
As if they trod the land.

Her oaken ribs the vulture beak
Of northern ice may peel—
The sunken rock and coral peak
May grate along her keel:
And know we well the painted shell,
We give to wind and wave,
Must float—the sailor's citadel!
Or sink—the sailor's grave!

Ho!—strike away the bars and blocks,
And set the good ship free!
Why lingers on these dusty rocks
The young bride of the sea?
Look!—how she moves adown the grooves,
In graceful beauty now!
How lowly on the breast she loves,
Sinks down her virgin prow!

God bless her! wheresoe'er the breeze
Her snowy wing shall fan,
Aside the frozen Hebrides,
Or sultry Hindostan!—
Where'er—in mart or on the main—
With peaceful flag unfurled,
She helps to wind the silken chain
Of Commerce round the world!

Speed on the ship!—but let her bear
No merchandise of sin,
No groaning cargo of despair
Her roomy hold within.
No Lethean drug for eastern lands,
Nor poison draught for ours;
But honest fruits of toiling hands,
And Nature's sun and showers.

Be hers the Prairie's golden grain,
The Desert's golden sand—
The clustered fruits of sunny Spain,
The spice of Morning land!
Her pathway on the open main
May blessings follow free,
And glad hearts welcome back again
Her white sails from the sea!

LITERARY NOTICES.

The Chemistry of the Steam-Engine Practically Considered: being the Substance of a Course of Lectures, delivered in the Theatre of the Birmingham Philosophical Institution. By T. CRADDOCK, Esq Simpkin & Marshall, London.

These lectures on the Chemistry of the Steam-Engine, which we published entire in the *Mining Journal*, a short time since, have now been carefully revised, and published in a pamphlet form, and which from the details of his experiments, the results of the calculations made (which cannot be retained in the memory,) and the general information contained on the properties of steam, must prove valuable to scientific men as a work of reference, either as connected with present knowledge, or in the investigation of its still hidden phenomena. Having giving the lectures at length in former Nmbers, it is unnecessary to make extracts from them; and we, therefore, conclude with an extract from the preface, which will give an idea of the views the author entertains of the advantages to be derived from the cultivation of a thorough knowledge of the gigantic powers, with which Nature has furnished us. Mr. Craddock says (speaking of the still undiscovered properties of steam), "who can predict how far it will contribute to loose the bands of oppression, and bid the captive to physical want be free, and thereby tend to the universal cultivation and elevation of the great mass of mankind; can any one seriously believe, that the all-wise and benevolent Creator, could have intended that the greater part of the highest class of beings he has placed upon this planet, and, they the only creatures capable of appreciating his works, should pass through life incessantly toiling for mere subsistance, and undergoing privations from which the lower class of creatures are exempt? Assuredly not; the application of the powers of steam discovers to him numerous forces, and instructs him in their application to nearly all the purposes of life. Awakening that mass of intellect which has hitherto, for want of time and means, lain dormant in the labouring classes—then will humanity appear in a nobler attitude, and man, walking erect upon the earth, will subdue it rather by intellect than by the sweat of the brow, and will thus, in a great measure, mitigate the curse of ignorance. What has been done is but a prelude to what is to be done—a mere clearing of the threshold, preparatory to throwing open the portals of liberty to the world at large—only a drop in the ocean, compared with what posterity will realise." We can confidently recommend the pamphlet, as well worthy a careful perusal.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

Society.	*Address.*	*Day.*	*Hour.*
Entomological	17, Old Bond-street	Monday	8 P.M.
Linnæan	Soho-square	Tuesday	1 P.M.
Horticultural	21, Regent-street	Tuesday	3 P.M.
Society of Arts	Adelphi	Wednesday	8 P.M.
Geological	Somerset-house	Wednesday	8½ P.M.
Zoological	11, Hanover-square	Thursday	3 P.M.
Royal Institution	Albemarle-street	Friday	8½ P.M.
Botanical	20, Bedford-st., Cov.-gar.	Friday	8 P.M.
Asiatic	14, Grafton-street	Saturday	2 P.M.

GEOLOGICAL SOCIETY.

MAY 6.—The President (Mr. HORNER) in the chair.

Dr. J. Hooker, Sir T. Phillips, A. Grote, Esq., J. Foster, Esq., F. Forster, Esq., and the Rev. Dr. Jenkyn, were elected Fellows. The following communications were read:—1. "On a Disturbance in the Hastings Sand and Weald Clay, exhibited in a Cutting on the Tunbridge Wells Railway," by J. Prestwich, jun., Esq., and J. Morris, Esq. The principal object of the authors was to give an account of the upper beds of the Wealden series as seen in the northern side of the great Wealden elevation. It is known that sections in this part are very rare, and the sequence of the beds is somewhat obscure. In the direction along which the railway cutting is excavated, the beds are repeated by a fault, and disturbed by a singular flexure, the existence of which was conjectured by Mr. Hopkins from the physical conditions of one of the lines of disturbance in the districts. The section near Tunbridge exhibits the lower part of the Wealden clay with the upper beds of Hastings sand, but does not extend to the lowest greensand; the uppermost beds seen consist of 30 ft. of brownish laminated clay, to which succeed 20 ft. of dark-coloured laminated clay and slate; the clay generally of dark bluish grey colour; containing impure beds of limestone, and various species of cypris, cyrena, and paludina. Other clays, and some light-coloured sandstones, which then appear, are afterwards succeeded by an important bed, in the upper part argillaceous, and in the lower part sandy; and this again by lignite. The fossils throughout are few, and chiefly confined to the upper beds.—2. "On the Newer Deposits of the Southern States of North America," by C. Lyell, Esq. This paper consisted of a number of detached notes on various points of North-American tertiary geology. In the first place, the author stated that he had distinctly made out the fact, that the surrounding ocean possessed the same conchological fauna at the time of the extinct land mammalia, as it does now. He also noticed some instances of the submerged trunks or stools of cypress, indicating a depression of the land to the amount of 4 ft.; while, on the shores of the Bay of Mobile, he found shells of *Gnathodon cuneatus*, indicating a slight elevation of the coast. Mr. Lyell found the eocene deposits of great extent in Georgia and Alabama, and the nummulitic limestone, which had been supposed of older date, distinctly newer than the white eocene limestone. The nummulitic formation on the Alabama river is from 50 to 100 ft. thick, and contains many fossils. The *Zeuglodon* of Prof. Owen, discovered by Dr. Harlan, and described by him as *Basilosaurus*, belongs to the eocene limestone below the nummulitic bed, and is associated with shells. The bones of this animal have been found in many other places, and in a very perfect condition.—3. "On the supposed Foot-prints of Birds in the New Red Sandstone Quarries of Stourton, near Liverpool," by J. Cunningham, Esq. The foot-prints in question were sharply indented on the stone, some of them measured 2½ in., and the distance between two steps (the stride) 10 in. They were three-toed, and appeared to be attributable to birds very distinctly.

SIR,—In your valuable Journal of the 9th inst., is a short notice of a paper, read before the Geological Society, on the 22d of April last, on the Dukinfield specimen of Sigillaria, to which my name appears. Your report states, that "the roots, which resembled Stigmariæ, were apparently connected with a stem believed to be true Sigillaria." This mode of expression is calculated to throw considerable doubt, where none exists. The roots of the Dukinfield fossils are, beyond all question, true *Stigmariæ* and the stem is undoubtedly that of a *Sigillaria*,—as proved by the St. Helen's fossil trees some time ago.—E. W. BINNEY.

Manchester, May 19.

INSTITUTION OF CIVIL ENGINEERS.

MAY 26.—The President (Sir JOHN RENNIE), in the chair.

The paper read was "A Memoir on the Resistances to Railway Trains at different velocities." By Wyndham Harding, Assoc. C.E. It commenced by describing several series of experiments which had been made by different persons with a view to determining the resistance at various velocities; some new experiments made by the writer on broad gauge and atmospheric lines being given in detail. Great difference of opinion on the amount of resistance prevailed in 1837, when a committee of the British Association examined the subject and reported upon it. Notwithstanding this, it was found, in 1845, that the estimates taken by some engineers of the resistances per ton at high velocities exceeded those acknowledged by other engineers by as much as 300 per cent. It appeared that the same low estimate of resistance was advanced by the advocates of the broad gauge before the Gauge Commissioners. It became, therefore a matter of great interest, both in a theoretical and practical point of view, to determine which of these two estimates (differing thus widely) was correct; and the inquiry was stated to have been facilitated by the application of two novel and direct modes of measuring resistances recently afforded to engineers by the atmospheric railway apparatus, and the application of Morius' dynamometer, to determine the tractive force required in propelling railway trains, as used by Mr. Scott Russell in his experiments. In arranging the vast number of results afforded by experiments, the author proceeded on the following principle:—He collected together all the results of experiments which exhibited uniform velocities maintained on a calm day, and on a line free from sharp curves: these results he calculated and projected in diagrams, and he showed that between these results there subsisted the most satisfactory agreement and consistency. He argued that the fact of the agreement of so many experiments made by different persons with different objects on different lines of railway during the last seven years, the resistance being measured in no less than four different ways, leads almost irresistibly to the conclusion, that the increase of resistance with the velocity was such as these various experiments indicated. The result was, that the resistance per ton to a passenger train of, say 30 tons, at a speed of 60 miles per hour, would be upwards of 50 lbs. per ton. instead of 18 lbs. per ton, or nearly three times as much as had been estimated by some engineers. The author, in pointing to the results of these experiments, stated that he desired not to express any opinion in the papers on the advantages or disadvantages of the atmospheric system, or upon the other practical points referred to; and then proceeded to apply to the experimental facts a formula expressing the law suggested by Mr. Scott Russell, which appeared to afford results closely agreeing with the experiments. The paper concluded with some remarks on the application of the experimental results exhibited, which demonstrated the great increase of resistance with the velocity (it being with a light train four times as much at 60 miles an hour, as at 10), to the calculation of the power of the locomotive engines, to the propelling power which, he contended, must be provided in the atmospheric system beyond that which had been calculated upon as necessary to the questions of gauge and of gradient; on all these points the law which at present appeared to be established had, he stated, the most direct and important bearing; and the doctrines and modes of calculation till recently in use, as regarded propulsion on railways, would, he believed, require great modification. The paper was illustrated by several tables and diagrams. A gas-burner of a novel and ingenious construction was exhibited. The principal feature of novelty was the introduction of a stream of air to the centre of the flame by means of a hollow button in the middle of the burner. The air passing up through the hollow stem of the button was heated and passed out by two series of fine holes around the periphery, and impinging it with more force with the flame of the gas curved it outward in the shape of a tulip, while the oxygen of the air mingling with the carburetted hydrogen gas produced a very perfect combustion. The flame was quite white down to the top of the burner, and it was very steady, as was amply demonstrated by the excellent light in the theatre of the institution, where these burners have been used for some time. It was stated that in comparing the consumption of these burners with that of the concentric ring burner, and trying the power of the two lights with the photometer, the new burner gave a better light with a saving of rather more than one-third of the gas consumed. It was, we believe, called the "universal burner," and was introduced by Mr. M'Neil. The paper announced for June 9th (the next meeting), was "A Description of the Iron Swing-bridge over the Wensum, near Norwich," by G. P. Bidder, M.I.C.E.

BRILLIANT WHITEWASH.—As the season has arrived when every consideration of cleanliness and health prompts to the use of lime upon buildings, fences, &c. &c., we give the following recipe for preparing the celebrated stucco whitewash, used on the east end of the President's house at Washington; colouring may be so added as to give any desirable tinge to the preparation:—"Take half a bushel of nice unslacked lime, slack it with boiling water, covering it during the process to keep in the steam. Strain the liquor through a fine seive or strainer, and add to it a peck of clean salt, previously dissolved in warm water; three pounds of ground rice, ground to a thin paste, and stirred and boiled hot; half a pound of powdered Spanish whitening, and a pound of clean glue, which has been previously dissolved by first soaking it well, and then hanging it over a slow fire, in a small kettle, within a large one filled with water. Add five gallons of hot water to the whole mixture; stir it well, and let it stand a few days covered from dirt. It should be put on quite hot; for this purpose it can be kept in a kettle on a portable furnace. It is said, that about one pint of this mixture will cover a square yard upon the outside of a house, if properly applied. Brushes, more or less small, may be used, according to the neatness of the job required. It retains its brilliancy for many years. There is nothing of the kind that will compare with it, either for inside or outside walls."—*New York Sun.*

DESCRIPTIONS OF RECENT AMERICAN PATENTS.

[From the *Journal of the Franklin Institute.*]

For an Improvement in Carriage Wheels: E. S. Scripture, New York.—The object of this improvement is to arrange the spokes and hub in such a manner as to afford a ready means of tightening the wheel when the spokes become loose by shrinking, which is effected by inclining the spokes either way from the plane of the wheel to form what is termed a double-dished wheel, one-half of the spokes being inserted in a permanent hub or cheek piece, and the other half in a moveable hub, or cheek piece, which slides on the pipe box, so that by means of a nut the moveable hub can be forced with its spokes towards the other, and thus tighten the spokes. *Claim.*—"Having thus fully described my improvement, I wish it to be understood that I do not claim constructing wheels, with the spokes bracing, by projecting the inner ends out from the plane of the wheels on each side; nor do I claim screwing the ends up firmly against a centre permanent projection on the hub, as that would not effect the object I have in view, which is to continually tighten the spokes and brace them out against the felloes as they wear loose; but what I do claim as my invention, and desire to secure by letters patent, is the combination of the pipe box with the cheek pieces into which the spokes are inserted, and fastened by plates on their outside, a space between said cheeks being left, so that they can be forced towards each other to tighten the spokes as they wear loose, or shrink, and by that means firmly brace the wheel, which can be readily taken to pieces, and any broken or defective parts replaced by perfect ones."

For an Improvement in the Connecting Rods for connecting the Crank Pins of the three or more Driving Wheels of Locomotives: H. Hinckley, Boston, Mass.—The object of this improvement is to connect three, four, or more driving wheels with a single connecting rod, and permit those between the two end ones to have a vertical and lateral play, which is effected by having the crank pins of the intermediate wheels work in boxes that slide vertically in the connecting rods, the said crank pins being made of sufficient length to give end play to the axles. *Claim.*—"I claim making the boxes to slide vertically in the connecting rod, in combination with extending or lengthening the crank pins of the wheels beyond the said boxes, so as to slide through them in the direction of their axes, as set forth; the whole being for the purpose of converting all of the several wheels of the engine into drivers, as described."

For an Improvement in the Axletrees of Wheeled Carriages: Jas. Jones, New York.—This improvement is for a method of securing metallic skeins or linings, to wooden axles, in such manner as to admit of turning them to change the worn part, for the part which is at the bottom bears the whole weight, and consequently the principal part of the wear. The metallic lining is slipped on to the wooden arm, from the end of which projects an iron screw rod, that passes through a hole in the end of the lining, so that by a nut on the end the whole can be secured or turned at any time. *Claim.*—"I do not claim to be the inventor of hollow skeins for axle-trees, for these have been heretofore used, and secured permanently to the axle-trees by bolts, or screws, passing through them into the axletrees; but what I do claim as my invention, and which I desire to secure by letters patent, is the before-described manner of fastening the skeins to the axle-tree—so that they can be tightened, and turned, and changed in position, whenever they become loose, or uneven from the shrinking of the wood, and the rubbing of the metallic surfaces, or from any other cause, by means of the aforesaid construction of the axletree and skeins, and arrangement of the screw rods and nuts, used and operated in the manner set forth."

For an Argillous Mastic: Wm. H. Chase, U.S. Corps of Engineers.—*Claim:* "What I claim as my invention, and desire to secure by letters patent, is the substitution of red sandstone and clay, reduced to a powder, in their natural state, or argil, silex, and the oxide of iron, for the stone of Sessyl or Val du Travers, or other assimilated materials, in combination with the mineral tar of Sessyl, or with any other bitumens, used in the formation of mastics, or in the use of red sandstone alone with mineral tar or other bitumens."

For an Improvement in the Drop Cut-off Valves of Steam-Engines: John Cochrane, Baltimore, Md.—This is a modification of the checking apparatus, or what is known as the dasher and pot of the Sickles' cut-off valves, and consists in working the dasher attached to the stem of the valve within a steam dash pot, open at top for the free passage of steam, and having an aperture at the bottom governed by a valve to regulate the escape of steam, and, consequently, the descent of the valve on its seat.—*Claim.*—"What I claim as my invention in this machine, and desire to secure by letters patent, is the manner of using the dasher or piston that is attached to the stem of the steam valve in combination with, and working within, a short cylindrical vessel, or check chamber, which is open at top, to allow a free passage to the steam in and out, and is furnished with an adjusting slide to regulate the escape of the steam; by which means the valve is made to take its seat without striking or noise."

For Improvements in the Auxiliary Steam-Engine for Supplying Steam Boilers with Water: John Cochrane, Baltimore, Md.—The patentee says: "The intention of an auxiliary supply engine is not only to supply water to a boiler, but to preserve the same at a uniform height therein, without its being effected by any irregularity in the consumption or evaporation of that fluid; said auxiliary engine stopping and starting and working quickly, or slowly, as the demands of the boiler may require. Under the arrangement that I prefer, the admission of steam to the auxiliary engine is governed by a float and balanced valves, placed in a chamber outside the boiler, but communicating therewith by two branches, one above and the other below the water line; so that the water may have the same level both in the chamber and boiler. The float is furnished with a tubular stem at bottom, opening into it, for the purpose of carrying off any leakage; this stem passes out through a stuffing box in the lower part of the chamber, the arrangement of this part being substantially the same with that represented and described in the specification and drawings accompanying letters patent of the United States, granted to me on the 13th day of July, 1844, for regulating the supply of water in steam boilers. The float, however, may be otherwise arranged and modified—the only requisite being, that its action on the steam valve should be governed by the height of water in the boiler. It is not pretended that an auxiliary engine for the supplying of water to steam boilers is in itself new, such engines having been heretofore employed for that purpose; but I have, as I believe, succeeded in so constructing and arranging the parts of such an engine as to obviate the main difficulties heretofore encountered in the attempts to employ them." *Claim.*—"Having thus fully described the nature of my improvements in the auxiliary supply engine, what I claim therein as new, and desire to secure by letters patent, is—first, the manner herein described of completing the stroke, or traversing motion, of the valve, by the commencing return stroke of the piston operating on the spring arms, substantially in the manner and for the purpose herein set forth. I likewise claim the manner of regulating the stroke of the water pump, by adjusting the same by means of a valve, or cock, as set forth—so that a smaller and regulated quantity of steam shall be admitted to the lifting, than is admitted to the forcing, side of the piston as described."

SCREW PROPULSION—LOWE *v.* PENN.—We have already published the particulars of this action, which was for the infringement of a patent relating to a screw propeller. The defendant had pleaded—first, that he had not infringed the patent; and next, that the invention was not new. The cause was tried some time ago before Lord Denman, and the plaintiff obtained a verdict. A rule had since been granted to show cause why the verdict should not be set aside, and a new trial granted. The ground of the application was, the specification did not show the nature of the invention to be such as comprehended the screw made by the defendant. Cause had been shown against this rule; and in the Court of Queen's Bench, on Thursday last, time was taken to consider the judgment, which was delivered by Lord DENMAN, who said that the court was of opinion that the plaintiff's specification and the defendant's work could not be so put together, as to show that one was a piracy on the other. The court, therefore, was of opinion that the rule for the new trial must be absolute.

PIAUZITE, A NEW MINERAL.—M. Haidinger has detected a new resin near Neustadt, at Piauze. It is compact, with a slight conchoidal fracture, brownish black colour, and feebly translucent on the edges. Its density is 1·220, and it fuses at 115° C., burning with a brilliant flame, and a slightly aromatic odour. It dissolves completely in ether and a solution of caustic potash, and also almost entirely in *absolute* alcohol.

KYROSITE OF BREITHAUPT.—Scheidhauer obtains for the composition of kyrosite, sulphur 53·05, iron 45·60, copper 1·41, arsenic 0·93, which, excluding the copper and arsenic, is the composition of common sulphuret of iron.

We learn from Rome that the Pontifical Government has just entered into a contract for lighting that city with gas.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY ....Hungerford Market Company—office, at One.
London and York Railway—Hall of Commerce, at Twelve for One.
St. Albans, Hatfield, and Hertford Junction Railway—office, Strand.
London, Salisbury, and Yeovil Junc. R'way—London Tavern, at Twelve.
Bandon and Bantry Railway—office, at Twelve.
Cork, Macroom, and Killarney Railway—office, at Three.
MONDAY .....General Mining Company for Ireland—office, Dublin, at One.
Grand Union Canal Company—offices, at Eleven.
Great Wheal Williams Mining Company—Stonehouse.
Llanelly Railway and Dock Company—office, at One.
Basingstoke Canal Navigation—Gray's Inn Coffee-house, at Three.
Direct Northern Railway—London Tavern, at Two.
TUESDAY .....Wheal Byon Consols Mining Company—Bolingey, Perran, at Twelve.
Caledonian Railway—Thatched-house Tavern, St. James's-street, Eleven.
WEDNESDAY...Regent's Canal Company—offices, at One.
South Wales Railway—Paddington Station, at One.
Vale of Neath Railway—offices, at Three.
THURSDAY.....Hammersmith Bridge Company—Crown and Anchor, Strand, at One.
Waterloo Bridge Company—Crown and Anchor, at Twelve.
FRIDAY .....Great Munster Railway—office, at Three.
SATURDAY.....Shropshire Mineral Railway—London Tavern, at Twelve for One.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

The half-yearly meeting of the proprietors of this company was held at their offices, in St. Mary-axe, yesterday. The meeting was numerously attended.—At one o'clock, P. M. STEWART, Esq., M.P., was called to the chair, when Sir JOHN CAMPBELL (the deputy-chairman of the company) begged leave to remind the proprietors how unanimously Mr. Stewart had been elected as their chairman, and he wished to be permitted now to add, that Mr. Stewart had been as cordially elected chairman of the board of directors, in which capacity he now introduced him to the meeting.

The CHAIRMAN wished, before they proceeded to submit to the consideration of the meeting the report of the directors, to be allowed to say a few words. With regard to what had just been stated by his friend (Sir John Campbell, he (Mr. Stewart) must confess he did not himself know why he had been so fast promoted to the honourable post he now held in this company—he was at a loss to understand why, among so many men to whose exertions their success and prosperity were so much more indebted than to anything he could have done, he had been selected to fill the highest office in connection with them. He had asked the reason why, and the answer he got was, that "the lightest bodies are raised the fastest"—(laughter)—and he supposed he must be satisfied with that explanation or reason. With regard to the report which would be laid before them, he trusted—in fact he had no doubt—they would consider it to be as highly satisfactory as any they were accustomed to receive of the affairs of this company. Considering the magnitude of the concern—the extent of their fleet—the population engaged in their service, and also that these were travelling, he might almost say, round the world—it would, he thought, be presumptuous in them to think that some casualties would not arise. (Hear, hear.) The report contained one, with the details of which they were all acquainted; and, while there were circumstances connected with it of a most distressing nature, there were also many others of a most providential character. (Hear.) But he would not further dwell upon these matters. The report in his mind, as a mercantile man, was very satisfactory. It was a budget of the affairs of the company, past, present, and prospective; and, in using the word "budget," he might say that if the budget, which was to be presented that night to Parliament by the great governing board of the country, exhibited as much judicious assiduity, blended with economy, in the management of public affairs as the budget which was about to be presented to this company, the nation would have good reason to be satisfied. He then called on Mr. Allen (the secretary) to read the report, of which the following is a copy:—

Eleventh Report from the Court of Directors to the Proprietors of the Peninsular and Oriental Steam Navigation Company:—

This half-yearly meeting has been convened in conformity with the terms of the company's deed of settlement for the sole purpose of declaring a dividend, and receiving the report of the board of directors for the half-year ending 31st March, 1846. The proprietors are now generally aware, that the company's deed requires the accounts of the concern only to be made up annually—namely, to the 30th September in each year; an arrangement necessarily growing out of the operations of this company, being carried on at such distances from head quarters: the board are, however, enabled to report that the receipts show a satisfactory increase, as compared with the corresponding half-year of 1845, and that the balance of nett profit on the company's paid-up capital, for the last six months, has not been less than 48,000*l.*, due provisions having been made out of the half-year's profits (before this result is arrived at) under the following heads, viz:—

1. To maintain the company's vessels in the highest state of working efficiency.
2. To contribute towards the enlargement of the "Insurance Fund" to meet casualties.
3. To provide for the depreciation of the vessels, by maintaining a fund, out of which new hulls and machinery may be supplied in place of those worn out in the service.

Under the 2d head—namely, that of the "Insurance Fund," the directors report that it now amounts to 69,250*l.*, reserved from time to time out of profits, of which the sum of 54,000*l.* is invested in Government and other securities, producing an annual income of about 2000*l.* The directors recommend, that, as the last half-year's profits admit of it, and as it is highly desirable to make this fund up to 100,000*l.* as speedily as possible, the further sum of 15,000*l.* be appropriated to the "Insurance Fund," which will make that fund amount to 84,250*l.* The directors refer with much regret to the distressing events connected with the loss of the *Great Liverpool*, on the 24th of February last, on her homeward voyage. The results of the strict investigation which followed that casualty, were immediately placed in the hands of each proprietor, and the directors here record unanimously the high sense they entertained of the professional character of the lamented commander of that vessel, and deeply regret having lost in him one of the most valuable officers in the company's service. As the *Great Liverpool* was insured for about two-thirds of her value, and as there was, in addition thereto, a considerable amount to the credit of her "depreciation account," the directors do not feel, that in a pecuniary point of view, the company sustained any loss; and a new vessel in lieu of the *Great Liverpool* will be provided without touching upon the company's capital.

Under the circumstances attending this event, and especially considering the peculiarity of the locality where it occurred, the directors feel it their duty, on this occasion, specially to acknowledge their sense of the providential circumstances connected with it—the loss of life having been so very much less than might have been apprehended in a case of such imminent danger.

The directors are using their best exertions to procure from the respective governments the erection of a light-house on Cape Finisterre, and also one on the island of Cerigo, in the Mediterranean, and they have reason to hope their efforts will prove successful.

The directors report, that they have lately received the strongest assurances from the Egyptian Government of the determination of His Highness the Pacha, to improve the transit between Alexandria and Suez. His Highness has taken under the control of his Government, the entire staff of the late Egyptian Transit Company; and he has not only increased the facilities for enabling the journey to be performed with more comfort to passengers, but has also communicated to this company an intended reduction in the tariff. The directors of this company having been made acquainted with the wishes of His Highness—namely, that a transit establishment, under the direct control of his Government should be formed, took the opportunity of one of the directors visiting the Mediterranean for the benefit of his health, to open a direct communication with the Government of His Highness, the result of which promises to be satisfactory; and with a view to forward the object of improving this communication, they authorised Sir John Pirie, Bart., if necessary, to negotiate the sale to His Highness of this company's vessel, the *Delta*, and the company's carriages, &c. in Egypt, which have been purchased at cost price. When the new arrangements referred to have been some time in operation, the directors will again revert to this subject; and in the meantime they desire to say, that from the assurances which they have received, there is reason to hope the changes alluded to may prove advantageous to this company's interests and satisfactory to passengers. The directors refer with pleasure to the valuable assistance afforded on this occasion by the timely visit of Sir J. Pirie to Egypt, and the ability manifested by him in the negociations carried on to promote the interests in question.

In the last report the directors stated, that they had made arrangements for the extension of the company's operations from Constantinople to Trebizond, &c. in the Black Sea, it has since been ascertained, that in order to carry out the 4th contract made with her Majesty's Government—namely, that in the Mediterranean, in connection with the Hon. East India Company's Mail steam-vessels to and from Bombay and Suez—it would frequently become necessary to employ additional vessels to make the line more complete, and carry on the public service with regularity, and they accordingly provided the *Achilles*, of 1000 tons, and 430-horse power, for that purpose. This experiment has proved successful, and has hitherto realised the expectations of the board. As there is a strong desire on the part of the merchants connected with the Levant, that increased facilities shall be afforded to their trade by means of steam-vessels, the directors will continue to give their best consideration to this line of the company's operations.

The directors expect that, in the course of the ensuing autumn, six of the company's new steam-vessels will be ready for sea, and they are immediately to be placed upon their respective lines. Those intended to complete the communication between Bombay and China will, it is expected, take up their stations early next year; and it is also probable that one of the company's vessels will occupy the line between Hong Kong and Shanghae, in the mail service, and another be placed on the Calcutta and Singapore station, between which respective places a considerable traffic already exists, though the passengers' intercourse has been limited, in the absence of the facilities which steam communication will afford. The directors, looking forward to the demand which ere long will undoubtedly be made upon this establishment for additional steam-vessels in the quarter referred to—and being aware, that, to build vessels and place them upon distant lines, will occupy not less than two years—propose to enlarge the company's fleet by four additional steamships, of the first character for speed, sea-worthiness, and comfort for passengers—a measure which they deem essential to promote the prosperity of the concern under their control. The proprietors are aware that, under the company's Charter of Incorporation, they had not the power of taking up any new line, except where her Majesty's Government thought fit to establish a mail service. This limitation was likely to operate most injuriously to the company's interests, by preventing them from directing into their main lines the additional traffic which each branch would produce.

The managing directors were, therefore, authorised by the board to take the necessary steps for procuring a supplemental charter to remove these hindrances, and the same has been obtained upon satisfactory terms—her Majesty's Government stipulating that this company shall carry her Majesty's mails and despatches on any new line thus established, on such pecuniary terms as may be settled (in case of any difference) by arbitration.

It has been gratifying to the directors to be enabled to carry into effect, during the last half-year, an arrangement, which may, in some slight degree, prove advantageous to the junior officers of the Hon. East India Company—namely, that of making a considerable reduction in the rate of passage-money for newly-appointed officers to the military service in India. The directors of the company have always experienced from the court of directors of the Hon. East India Company the utmost liberality and much kind consideration, and this measure your directors felt might, therefore, be acceptable to them. Should the revenue of this company hereafter admit of it, it is expected that the principle may be extended so as to embrace officers returning on sick leave from India.

The directors having taken a review of the result of the company's operations to the present period, have no hesitation in stating, that the undertaking continues steadily to improve; and that, by strict attention to the exercise of a sound economy on the one hand, and the judicious development of the traffic which has, or may be directed into the company's vessels, on the other, the prospects for the proprietors are gratifying. Should the income of the company continue, on an average, at the rate it now is, the directors feel it to be their bounden duty to all the present shareholders now to state, that it is their confident expectation they will be enabled to recommend the dividend for the year ending the 30th of Sept., 1846, to be at the rate of 8 per cent. per annum; but the accounts being only made up annually (for the reason already assigned in the foregoing part of this report); they have only further to recommend, that the usual dividend of 3½ per cent. (free of income tax), for the six months ending the 31st of March, 1846, be now declared payable on and after the 23d of June next. JAMES ALLAN, Secretary.

Major STRAITH moved that the report be adopted, and circulated amongst the proprietors.—Sir D. MACNAMARA seconded the motion, which was unanimously agreed to.

An hon. PROPRIETOR congratulated the company upon the appointment of Mr. Stewart, as chairman of the board of directors; because he knew from the hon. gentleman's manner of doing business that, however prosperously the company might have gone on, they might look forward to increased prosperity from the effect of his assistance as chief manager of their affairs. (Cheers). He concluded by proposing, that a dividend of 3½ per cent., recommended in the report read, be payable on or after the 23d of June, 1846, between the hours of twelve and three o'clock, on each day, to such proprietors as are duly qualified to receive the same.

Mr. WARREN seconded the resolution, which was unanimously carried.

The business of the meeting being concluded, a vote of thanks was passed to the chairman and the board of directors, for their able and zealous management of the company's affairs; and the meeting separated.

CAMERON'S COALBROOK STEAM COAL AND SWANSEA AND LOUGHOR RAILWAY COMPANY.

A meeting of the shareholders of this company, which is registered and incorporated, was held in the company's offices, No. 2, Moorgate-street, on Monday, the 25th inst., in pursuance of the late sessional orders of Parliament, for the purpose of submitting to the shareholders the bill for constructing the company's railway and branch railway, now before Parliament: the meeting was very fully attended.

JACOB MONTEFIORE, Esq., one of the directors, having been called to the chair, Mr. ELDERTON, solicitor of the company, read the advertisement calling the meeting, and shortly explained the position of the company as a corporate body, completely registered under the provisions of the 7th and 8th Vic., cap. 110: he also laid upon the table a copy of the bill.—The CHAIRMAN then adverted to the prominent character of the company as a coal company, possessing so extensive a tract of very valuable steam coal, so much in demand on the present day, and the superiority of the company's coal for steam purposes; and that as a coal company incorporated, independent of the railway, the company was now proceeding with the working and sale of the coal; that the railway sought from Parliament was chiefly to facilitate the conveyance of the company's coal from the works to their wharf at Swansea, and thereby largely increase the vend of coal, from which the company, by saving of expense alone, would derive a very large and additional profit.—It was then intimated by the CHAIRMAN, that there were at the meeting shareholders and proxies representing absent shareholders to an extent beyond the requirement of Parliament.—It was, thereupon, unanimously resolved, that the bill now before Parliament for the construction of the company's line, be approved of.—Thanks having been voted to the chairman for his conduct in the chair, the meeting, which was highly gratifying to all present, broke up.

NATIONAL BANK OF IRELAND.

The eleventh annual general meeting of the proprietors of the National Bank of Ireland was held, on Wednesday last, at the society's offices, Old Broad-street. The meeting was numerously attended. Among the directors and gentlemen present, we observed—D. O'Connell, Esq., M.P., governor; A. P. Johnson, Esq.; F. B. Henshaw, Esq.; J. C. Ruding, Esq.; C. Bianconi, Esq., mayor of Clonmel; F. Newsam, Esq.; T. Lamie Murray, Esq.; Capt. Sir Burton Macnamara; Dr. Fitzgerald, Carrick-on-Suir; J. L. Wheeler, Esq.; W. L. Wheeler, Esq.; Chas. Rule, Esq.; Th. Shewell, Esq.; Joseph Wheeler, Esq.; the very Rev. Dr. Magee; Francis O'Neill, Esq.; Joshua B. Bacon, Esq.; H. M. Jones, Esq.; Edward Jones, Esq.; the Rev. Thomas Madge; H. Surmon, Esq.; W. Wrentmore, Esq.; W. Terry, Esq.; Henry Vigne, Esq.; and Augustus Vigne, Esq. On the entrance of D. O'Connell, Esq., M.P., accompanied by the directors, into the board-room, he was received with every demonstration of respect. The hon. and learned Member for Cork appeared in excellent health, certainly much improved since the opening of the Parliamentary session.

D. O'CONNELL, Esq., the Governor, presided.

The CHAIRMAN rose and said—Gentlemen, I will call on the secretary to read the advertisement calling the meeting.—N. S. KING, Esq., having read the advertisement,—The CHAIRMAN afterwards rose and said—Gentlemen, my next duty is to call on the secretary to read the report which is to be submitted for your considerat on.—The SECRETARY then read the following report of the directors of the National Bank of Ireland made to the proprietors at the eleventh annual general meeting, held at the office of the company, No. 13, Old Broad-street, London, on Wednesday, May 27, 1846:—

REPORT.

The directors of the National Bank of Ireland have much pleasure in meeting the proprietors assembl d at this, the eleventh, annual general meeting of the company, and in submitting, for their approval, a statement of the assets and liabilities, together with the profit and loss account of the bank, up to the 31st of Dec. In the last annual report, the directors alluded to the proposed measures in regard to banking in Ireland; and, by the Act which came into operation on the 6th of Dec., the issues of each bank are definitively limited, and any excess over the fixed amount must be represented by specie. The Act further requires returns of the circulation and specie to be made weekly to Government, and which are published monthly in the *Dublin Gazette*.

The directors, with a view to advance the general interests of the company, deemed it expedient to augment the paid-up capital of the bank, and a call of 5*l.* per share was accordingly made upon the proprietors—payable in two moieties, one on the 15th of Oct., and the other on the 15th of Jan., thereby increasing the paid-up capital of the bank to 450,000*l.*; and, although the first instalment of 50,000*l.* did not become payable until the 15th of October last, the shareholders received the dividend thereon for the full half-year, from the 30th of June to the 31st of December.

The potato crop in Ireland last year sustained a general blight, and the deficiency in this staple provision of the great mass of the people, has, consequently, led to much suffering and destitution; the directors have, therefore, considered themselves called upon, on an occasion like the present, to contribute liberally to the funds which have been raised for the purpose of alleviating the existing distress—and in the performance of these benevolent acts, they are confident of having the cheerful concurrence of the shareholders.

The directors have to congratulate the proprietors on the result of the operations of the bank for the past year, whereby they have been enabled to add 5867*l.* 5*s.* 3*d.* to the reserve fund, after paying the two half-yearly dividends, amounting to 18,750*l.*

The undivided profits at Dec., 1844, were				£33,628	19	10	
Net profits for the year ending Dec., 1845				24,617	5	3	58,246 5 1
Deduct half-year's dividend to Midsummer, 1845			£	8,750	0	0	
Ditto	ditto	Christmas, 1845		10,000	0	0	18,750 0 0
Leaving amount of undivided profits at Dec., 1845							£39,496 5 1

There are now to be elected four directors, in the room of Daniel O'Connell, Esq., M.P., Thomas Lamie Murray, Esq., John Clement Ruding, Esq., and James Reade, Esq., whose seats at the board are vacated by rotation, and all of whom are candidates for the office, and eligible to be re-elected. (Signed) DANIEL O'CONNELL, Governor.

The GOVERNOR—Gentlemen, it is now my duty, without waiting to have it moved, to propose this report for your adoption. You are to consider whether the report now read is such as you should adopt, and you are to act accordingly. The entire of it has been already verified. We have, I think, done well, and we have every prospect of doing better. (Cheers.) A call has been made upon the proprietors, which has been cheerfully and readily responded to. The entire amount of the call was paid, notwithstanding the difficulties of the times, and the demands for money from other quarters. We have increased our capital—we have increased our circulation—we have increased our deposits; and our reserved fund has been considerably increased also. Under these circumstances, I think we are entitled to call on you to consent to the adoption of this report. I have the profit and loss account before me, as well as the balance-sheet. We have subscribed no less a sum than 400*l.* to alleviate the distress in the different localities in which we have branches in Ireland. The contribution has been readily made, and I am glad it has now met with the entire sanction of the proprietors. The expenditure of this sum has been carefully considered by the directors: the various sums have been placed at the disposal of the different local committees, to be distributed under their immediate inspection. These gentlemen had contributed largely to the funds, and we might, therefore, expect that they will exercise a due vigilance over the proper disposal of them. The six new branches which were opened have been productive, and are likely to be eminently prosperous. I shall now put the question, that as many as are of opinion that this report shall be adopted, signify the same by holding up their hands.

The question having been put, the report was unanimously adopted.

The SECRETARY then read the account of profit and loss, and balance sheet of the company, which appeared to be highly satisfactory to the meeting.

The GOVERNOR then said—Gentlemen, there are four directors to go out by rotation. By the deed of this company, no gentleman can be appointed for the direction who does not give notice some days previous. There has been no notice given. The retiring directors are, I believe, desirous of being reappointed if it is your pleasure that they should be so.

The SECRETARY then read the names of the retiring directors; after which the CHAIRMAN said—It is my duty to put the question as to whether these gentlemen should be reappointed or not, and you will signify the same in the usual way.—The retiring directors were then declared to be re-elected.—The GOVERNOR: If any gentleman has any observation to make, or anything to state, he is now at liberty to do so.

Mr. TERRY—I shall be very happy to avail myself of that privilege. I have heard with very great pleasure the statement as to the prosperous condition of the concern; and that, of course, must give every one very great pleasure; but there is another circumstance that is much more gratifying than that—it is the circumstance of the directors having subscribed to the fund for the benefit of the distressed people of Ireland. I think, sir, that is a subject upon which every individual, no matter whence he comes, belonging to the United Kingdom—I think every one, sir, must feel most truly delighted that the directors have done so. (Cheers). We ought to know no distinction at all—(cheers)—in regard to the distressed individuals, and I am glad the directors have taken that view of the case. I think it might as well have been larger; there may be crying circumstances that require a larger sum to be contributed. I, as an individual—a very humble one—connected with this concern, feel very great pleasure that the sum has been subscribed.

The GOVERNOR: There are many localities that require no assistance. I think it is a matter for the proprietors to leave in the hands of the directors, as to whether they shall advance a larger sum or not. One great object that we had in contributing, was to stimulate the gentry of the neighbourhood; and the advance was not too large, lest they should consider it as an excuse for their not coming forward themselves. These are things which depend upon the circumstances of each locality, and, if you please, you will leave this matter in the hands of the directors. If the sum do not answer, the directors will take it into their consideration whether they should advance a further sum. It might be imprudent if we were to give our money to every locality. You will, therefore, please to leave this matter in the hands of the directors, for that, I think, is the soundest policy.

The Governor was on the point of dissolving the meeting, when Mr. WHEELER said, before the meeting separates, I beg to thank you cordially, in the name of the proprietors, for the interest you have paid to our affairs. I need say nothing further, except to request those present to agree with me in a vote of thanks to the governor and directors.—The motion was at once agreed to *nem. con.*, and the meeting separated.

CONSOLIDATED INVESTMENT AND ASSURANCE COMPANY.

A meeting of the directors of this society took place on Tuesday, at the King's Head Tavern, Poultry, for the purpose of giving publicity to the objects of the institution. BENJAMIN MASSEY, Esq., in the chair.

Mr. CORNELIUS WHEELER (the manager) stated, that the company was formed for the united purposes of enabling persons to erect or purchase residences or other property, for occupation or investment, for the redemption of mortgages, granting loans and annuities, effecting assurances upon lives, and for the purchase and sale of reversionary interests, and every other description of property. It was to combine the two characters of a building society and an assurance office—an union that could not fail to be of the highest interest to both, as the lending money for the purposes of building, to be repaid upon the terms usual in these societies, would afford a ready and profitable investment for the funds of an assurance office, and relieve the borrowers from all uncertainty as to the time at which their periodical payments were to cease. The amount of capital was to be 50,000*l.*, to be raised by 5000 shares, of 10*l.* each; and of that number 1370 were already disposed of, making more than one-fourth, which, according to the requirements of the Act, was sufficient to entitle the company to commence business at once.

Mr. GIBBONS (a director) went into a calculation to show the large profits that must be realised to the shareholders, according to the average calculation, which he estimated at 30,000*l.* at the end of 10 years, in addition to the 4 per cent. interest.—Mr. WHEELER, in explanation of the great advantages of the society to the public, made the following statement, to show the advantages to be derived by persons borrowing money from the annuity branch of this company:—Suppose a person to occupy a house at a rental of 42*l.* per annum, which the landlord is willing to dispose of for 400*l.*, at a ground rent of 5*l.* per annum, for 60 or 70 years, he will receive the sum required to make his purchase, and instead of 42*l.* a year for rent to his landlord, by paying an annuity of 45*l.* 12*s.* for 15 years, in addition to the ground rent, he will have become the purchaser of the property for 129*l.*, instead of immediate payment of 400*l.*—thus:

£100 requires an annuity of	£11	8 per ann. for 15 years.
Which, multiplied by	4	
£400 requires	45	12
Add ground rent	5	0
Total annual payment	50	12
Deduct rent now paid	42	0
Cost per annum	8	12
To be continued for	15 years.	
Total cost	£129	0

Suppose the same person to have 100*l.* of his own to invest, he will borrow 300*l.*, by which he will secure 2*l.* 16*s.* per annum, as interest upon the 100*l.* found by himself, and secure the house at the end of 15 years without any additional payment—thus:

£100 requires an annuity of	£11	8 per annum.
Which, multiplied by	3	
£300 requires	34	4
Add ground rent	5	0
Total annual payment	39	4
Instead of rent now paid	42	0
Leaves for interest of 100*l.* paid	£ 2	16

The great advantages of this company, as compared with a building society, are—that borrowers are not required to pay up any arrears or entrance fees, upon receiving their advances; and that their annuity payments cannot be continued beyond the time originally agreed for; and the shareholders have a safe and permanent investment, without being liable to a ballot to compel them to withdraw their capital, or invest it in property against their inclination, whilst, in addition to the profits usually obtained in an assurance company, they will secure those attached to a building association.

The draft abstract of the Deed of Settlement was then read, the clauses of which were approved of, and confirmed by the meeting.

Many observations were made on the disinterestedness of the directors, in giving all the power to the shareholders, and not retaining many of those that were usually retained by directors, in forming such companies.—A vote of thanks was then passed to the chairman of the day, when the meeting separated.

THE GREAT AMERICAN MASTODON.—A splendid specimen of this monster of former ages was exhumed at Newburgh, New York, in August last, which, with respect to the preservation of the bones, the completeness of the skeleton, and probably its size, this is the most perfect specimen yet discovered. The bones contain a large portion of their gelatine—firm in texture, light in colour, and sonorous when struck; the number is sufficient to complete the skeleton, with very few exceptions, and will give a true idea of the osseous fabric of the animal. Some of the caudal vertebræ, and a few bones of the feet, only are missing; but those wanting in one foot exist in the other, both in the anterior and posterior extremities. Its actual height cannot at present be stated with precision: the length of the head, however, is 3 ft.; the breadth of the pelvis 6 ft.; and the tusks, when discovered, were 10 ft. long—but a portion, about 4 ft. in length, only of each tusk is well preserved; of the remainder, 4 ft. retains its form, the rest is decomposed. This magnificent relic of a lost race is the property of C. Warren, Esq., Boston, Professor of Anatomy, &c., in Havard University. The skeleton has been taken to pieces, and is in process of re-articulation, with the aid of all the light of comparative anatomy derived from scientific men, and from observation of the skeletons of the elephant, tapir, and other pachydermatous animals. It is stated that every effort will be made to place the different parts in a strictly anatomical relation, and without any attempt to exaggerate the surprising dimensions of the animal. In 1844 a mastodon skeleton was found in New Jersey, which, at the period, was more perfect than any other; the present one, however, is more complete than that—besides these, there are, we believe, but three articulated skeletons in existence—Mr. Peale's, in Philadelphia; one in Baltimore, found in 1802; and Dr. Koch's Missourium, in our British Museum. The one now under consideration is supposed, from the large aperture of the pelvis, to have been a female. Accompanying this skeleton were two perfect heads, two additional lower jaws, with a number of teeth and other bones. By means of the teeth which were contained in the jaws of animals of different ages, a complete dental series is displayed, from an early period in the calf, to its termination in the adult.

Mining Correspondence.

ENGLISH MINES.

HARRISTOWN.—May 22.—Since my last report, we have communicated on 16 fm. level with the winze sunk in the 12 fm. level, west of Davis's shaft, which will ventilate this part of the mine; we hope to hole this end with Davis's shaft, in a few days, as the men of this shaft are driving west to meet the end; the lode in the 18 fm. end west is producing between 2 and 3 tons per fm —making fully as well for ore as we ever saw it; the 18 fm. end east is not on the lode at present. The lode in winze, west of flat-rod shaft, 12 fm. level, is producing between 2 and 3 tons per fm.; the winze is on a level with 18 fm. end west,—and the winze men are driving east to communicate with that level also; the lode in this end, and the end driving west of winze, will produce from 2 to 3 tons per fm.; in fact, the prospect west is greatly improving. The lode in adit end is still poor. We have driven through small branches of the lode in 24 fm. level cross-cut, south of engine-shaft, all mixed with ores, but nothing regular; we do not expect to intersect the main part of lode here for some fathoms.—T. ANGOVE.

BEDFORD UNITED.—May 26.—At Wheal Marquis, in the 80 fm. level east, there is no alteration. The lode in the 70 fm. level is 2 ft. wide, composed of gossan and ore; and in the stopes, in the bottom of this level, the lode is worth 18*l.* per fm. In the 58 fm. level east the lode is 18 in. wide, composed of spar, mundic, and ore. At Ding Dong, there has been no lode taken down in the 24 fm. level west. At Wheal Tavistock, the lode in the 47 fm. level east and west is 2½ ft. wide, producing a little saving work, very kindly. In the 35 fm. level east the lode is 18 in. wide, and west 2 ft. wide, composed of spar, mundic, and ore. The lode in the south engine-shaft is 9 ft. wide, composed of gossan, iron, spar, and ore, altogether more kindly than for some weeks past. —JAMES PHILLIPS.

CALLINGTON.—May 25.—Johnson's engine-shaft is 3 fms. below the 112 fm. level; the ground is rather more favourable for sinking; at this level we are driving both north and south, the lode is producing silver-lead ores, and we are opening tribute ground. In the 100 fm. level, driving south, we have a promising lode, the back will set at 9s. in the 1*l.*, on the value of the lead; we are just now commencing sinking a winze to come down upon this end; the north end is opening ground, that will set at 7s. in the 1*l.* In the 90 fm. level north the lode continues to produce good work; the back will set at 6s. in the 1*l.*; the south end is also opening ground that will set at a moderate tribute. In the 80 fm. level, driving north, the lode is producing silver-lead ores. At the north mines, we have nothing new to remark on, the different levels being just the same as reported last week.—J. T. PHILLIPS.

CONSOLIDATED TRETOIL.—There is no alteration in the lode in Henwood's shaft since last reported, the sumpmen have been engaged altering the pitwork, and fixing a plunger from the 70 fm. level to the 50, which is nearly completed. In the 70 fm. level, east of Henwood's shaft, the lode is 15 in. wide, producing ore that will set on tribute; in the 70 fm. level, west of ditto, the lode is 9 in. wide, unproductive. In the 60 fm. level, west of Williams's shaft, the lode is 9 in. wide, opening ground for tribute; in the 60 fm. level, east of Henwood's shaft, the lode is 9 in. wide, which is also opening ground that will set on tribute. In the 50 fm. level, east of Henwood's shaft, the lode is 1 ft. wide, producing a little ore. Tregillas's lode, driving east at the 40 fm. level, remains much as last reported.

EAST TAMAR CONSOLS.—May 25.—At Whitson, in the 46 fm. level, north of Hitchins's shaft, the lode is 18 in. wide, saving work; in the 46 fm. level, south of ditto, the lode is 12 in. wide, good work. In the 36 fm. level, north of ditto, the lode is 14 in. wide, saving work. At Furzehill we are getting on with our engine as fast as possible; our shaftmen are still engaged in putting down the pitwork. In our dressing department we are getting on as well as can be expected.—B. ROBINS.

GREAT WHEAL MARTHA.—May 23.—In driving north, at the 60 fm. level, old mine, we discovered the lode, which was hove by a vein of mundic, mentioned in our last report; it is about 3 ft. wide, consisting of mundic, intermixed with a small proportion of copper ore. At the new mine, the lode in the 20 fm. level east has been cut into this week—it is large and promising, containing some good stones of ore. The killas on the hanging wall, in which we are driving, is traversed by a small vein of carbonate of iron, associated with sulphuret of lead of superior quality. This lead has, no doubt, proceeded from a cross-course, which will be found last of our present operations. The lode in the western level continues large, still producing a small quantity of copper ore. The lode in the 10 fm. level west is 6 ft. wide, composed of friable quartz, decomposed felspar, with mundic and good stones of copper. The pitch in the back of this level is at present poor. The new engine-shaft is sunk 6 fms. below the deep adit level, with a continuation of the same favourable ground for sinking.—JOHN PRINCE. THOMAS PENALUNA.

GUNNIS LAKE.—May 26.—At Chilsworthy, Bailey's engine-shaft is 7 fms. 4 ft. 6 in. under the adit level, lode 2 ft. wide, principally gossan and spar. The lode in the 10 fm. level, east and west of western shaft, is 2 ft. wide, producing a little tin. We have discontinued shoding for the present.—W. RICHARDS.

HAWKMOOR.—May 26.—The lode in the winze in the adit level is about 14 in. wide, composed of spar, capel, and mundic, with spots of ore in places. The lode in the 15 fm. level, east of Hitchins's shaft, is 3½ ft. wide, 1 ft. of which is good saving work, and worth 9*l.* per fm.—P. RICHARDS.

HOLMBUSH.—May 26.—The ground in the bottom of Hitchins's shaft still continues favourable. The 110 fm. level, west of Hitchins's shaft, is still in the cross-course. In the 100 fm. level, west of ditto (on the north part), the lode is 20 in. wide, and worth 25*l.* per fm.; the lode in the stopes, in the back of this level, is 2 ft. wide, and worth 25*l* per fm. In the 100 fm. level, on the south part, the lode is 12 in. wide, composed of spar, mundic, and spots of ore; at this level, driving south, the lead lode is 6 ft. wide, composed of spar, flookan, and spots of lead; in the same level, driving north, the lead lode is 3 ft. wide, composed of flookan and spar, with a small branch of mundic and spar, spotted with copper ore, which, we believe, will form a connection with the caunter part of the north lode (this branch being a distinct thing from the lead course). In the 100 fm. level, west of Wall's shaft, the Flapjack lode is 29 in. wide, composed of spar, mundic, and spots of ore. In the 90 fm. level, west of lead lode (on the north part), we have been cutting in further south than the branch we reported on last week, and have intersected another branch of ore and mundic, the size or value of which we are not able to ascertain, until we have opened more ground, and have got through it, which we expect to do next week; in the same level, driving west (on the south part), the lode is 15 in. wide, composed of spar, mundic, killas, and spots of ore. In the 90 fm. level south the lead lode is 3½ ft. wide, composed of flookan and spar. In the 80 fm. level south the lead lode is 2½ ft. wide, composed principally of flookan; the rise in the back of the 80 fm. level, against Bray's shaft, is much the same as last reported. In the 62 fm. level south the lead lode is 2 ft. wide, composed of flookan and spar.—W. LEAN.

MENDIP HILLS.—May 23.—I beg to say that Stainsby's shaft is sinking, and is 10 ft. under the 18 fm. level; the lode is 9 ft. wide, just as last reported; in the end north we have put two men to drive the lode; the lode is larger than the end is wide, with flookan, and some ore in places; in the end south, at ditto, we are clearing away the stuff, to get to the end of the ground, which will be done in a few days' time; in this stuff we are finding stones of lead, from 10 to 20 lbs. in weight, very good; new shaft just as last reported. In Paynter's shaft, we have commenced to sink under the 14 fm. level; in the end, at this level, we are in old workings, finding good stones of ore. At Somers's, in the 20 fm. level, north of shaft, in the winze sinking in the bottom of this level, the lode is 5 ft. wide, with ore in places; in the end, at ditto, no lode; it is all taken away by the old men, down as far as the bottom of this level; here we have lead going down, the lode kindly; this week the end men have broke 3 cwts. of lead in this place.—G. PAYNTER.

SILVER VALLEY.—May 25.—The south branch in the engine-shaft is improved since last week; it is now 20 in. wide, saving work for tin. The lode in the 30 fm. level west, and in the stopes in the back of this level, is 2 ft. wide, one-half of which is tin work. The lode in the eastern end is 1 ft. 3 in. wide, and has a more promising appearance than for some time past—we are now sinking a winze in the bottom of this level in a good lode for tin 2 ft. wide. The lode in the 20 fm. level west is 2 ft. wide, with a little tin in places—very promising. At the south shaft, the silver lode in the 40 fm. level east is 1½ ft. wide, composed of flookan, mundic, and spar—very kindly. We expect that we are getting near the same shoot of silvery ground that is in the stopes dipping eastward. We have commenced clearing the 40 and 30 fm. levels west. The winze at the 20 fm. level is holed to the stopes, as was expected, and we shall now stope the branch of silver. At Wheal Sisters the platt is completed, and the men are now clearing the adit level eastward, where the silver lode is 1 ft. 6 in. wide, and, from its kindly appearance, we shortly expect to find some silver. Upon the whole our prospects are encouraging.—S. RICHARDS.

TRELEIGH CONSOLS.—May 23.—In the 100 fm. level, east of Christoe shaft, the lode is 2½ ft. wide, very promising, but without ore; it is not quite off from the cross-course. In the 90 fm. level, east of ditto, the lode is 2½ ft. wide, worth 18*l.* per fm.; in the 90, west of ditto, the lode is small, and without mineral. In the 80 cross-cut south, we have cut several small branches, but no lode. Garden's shaft, below the 80, is now to the 90 fm. level; we shall take down the lode, and commence driving east and west. In the 80, west of Good Fortune shaft, the lode is 3 ft. wide, but not much ore. In 70, west of do., the lode is 4 ft. wide, with a very promising appearance, but not much ore. In the 60, west of Symon's, the lode is 2½ ft. wide, with a small quantity of ore. In the 50 cross-cut north, the ground is much as usual; in the winze below the 50 west, we are preparing to sink below this level on the 60 end. In the 50, west of do., the lode is 2 ft. wide, worth 14*l.* per fm. In the 20, west of do., we have suspended for the present. The men will sink the winze below the 50. In the adit, west of do., the lode is 2 ft. wide, still producing good stones of ore.—W. STEVENS.

ST. IVES CONSOLS.—The following is the account for Lady-day quarter:

To labour cost, carriage, &c.	£2987	1	2			
Merchants' bills	695	17	0			
Coals	306	13	0			
Lords' dues	179	17	9	4171	9	6
Balance				2507	2	4
Making a total of				£6678	11	10
Dividend now made, at 20*l.* per 1-94th share	£1880	0	0			
Balance per contra	627	2	4	2507	2	4
By black tin sold	£5901	15	2			
Balance of account, Christmas quarter, 1845	776	16	8	6678	11	10
Balance per contra, profit				£2507	2	4
Leaving a balance in favour of the adventurers of				£ 627	2	4

SOUTH WHEAL MARIA.—May 27.—Since the heavy rains ceased, we have again resumed sinking our shaft by means of a horse whim. The bottoms of the shaft, although going down in the country, is a consistent bed of killas, in which branches of copper, prian, peach, flookan, and mundic, are frequently found. Not a country stone of any kind is to be seen. The last meeting decided on sinking 10 fms. deeper, before we drive to the lodes, at which depth we expect to have the two lodes, one on each side, into the shaft; they are both underlaying in that direction. Our water machinery is about to be erected.—JAMES CHANHALL.

TAMAR SILVER LEAD.—May 25.—The engine shaft is down 7 fms. below the 145 fm. level, the lode in the shaft is small and poor. In the 145 fm. level there has been no lode taken down since last report. In the 135 fm. level, the lode is 3½ ft. wide, producing work of a good quality. In the north end of this level, the lode is 1 ft. wide, 6 in. of which is good work. In the 125 fm. level, the lode is 2 ft. wide, composed of can and ore. In the 115 fm. level, the lode is 1 ft. wide, good work. The 105 fm. level is suspended for the present, in order to sink a winze for ventilation. In this winze, the lode is split in two branches, about 6 in. wide, each producing good work. At North Tamar, in the rise, in the back of the 60 fm. level, we have commenced cross-cutting west, as we find the winze at the 50 fm. level is sunk on the western branch.—J. SPRAGUE.

TINCROFT.—May 25.—I beg to hand you my report, as usual, though I can speak of no material alteration in the appearances or prospects of the mines. The ground in the new engine-shaft is still hard—consequently, our progress is slow in sinking. We have cut the lode beyond the cross-course, in the 90 fm. level east; it is 2 ft. wide, producing some copper ore of excellent quality, worth 15*l.* per fm.; the west end of this level is also producing some ore, but not rich. The 70 and 60 west are yielding fair quality work; the 70, 60, and 50, east, are producing fair quality tinstuff, with some copper ore. At Palmer's, the 70 west is worth 15*l.* per fm.; the winzes continue to look pretty well going down on the 70; we hope soon to communicate to the first winze, and set the back on tribute. We have discovered a very promising branch of ore, by driving south from the 60 west; we intend to drive west on this branch, to ascertain its value. In the south mine, the lode in the shaft sinking below the 152 is 2½ ft. wide, very good for tin, worth 50*l.* per fm. The 152 east is suspended for the present, and the men put to stope the bottom of one level, where the lode is worth about 25*l.* per fm.; the 152 west is now in a cross-course, the same as passed through in the level above. The 142 east is producing saving work for tin, but the ground is very hard and expensive. The lode in the 120 east is 4 ft. wide, worth 10*l.* per fm. The 110 east is worth 10*l.* per fm. Our pitches continue much the same as for some time past, but the price of tin having gone down so very much, is making against us sadly.—W. PAUL.

TRESAVEAN.—The following are the particulars of the account-meeting, held on the 26th inst.:—Labour cost for March and April, 2198*l.* 5s. 6d.; the merchants' bills, 958*l.* 14s.—together, 3156*l.* 19s. 6d. By copper ores, sold Feb. and March (375 1*l.* 16s. 3d., less lords' dues, 187*l.* 16s. 11d.)—3563*l.* 19s. 4d., showing a profit of 406*l.* 19s. 10d.; which, with balance in hand at the end of Feb. of 673*l.* 16s. 9d., leaves a balance now in hand of 1080*l.* 16s. 7d.

TRETHELLAN.—The following are the particulars of the account-meeting, held on the 26th inst.:—Labour cost for March and April, 617*l.* 18s. 2d.; the merchants' bills, 234*l.* 13s.—together, 852*l.* 11s. 2d. By copper ore, sold February and March (1132*l.* 4s. 6d., deducting 1-15th for lords' dues, 75*l.* 9s. 7d.), 1056*l.* 14s. 11d.—showing a profit of 204*l.* 3s. 9d.; which, with balance in favour at last account, 785*l.* 16s. 9d., leaves a balance at bankers of 990*l.* 0s. 6d.

TREWOLLACK.—May 22.—The lode in the 20 fm. level south is much improved, with a branch of lead in the end 6 in. wide, solid; the lode is 3 ft. big in the end, composed of lead, flookan, prian, and sugary spar, and is so easy that a miner may keep a couple of "rullers," or barrowmen, at work, in removing the ore to the bottom of the shaft. There is every reason to suppose, that a large course of lead is near at hand. The lode in the north end, at the 20 fm. level, is much improved, with good stones of lead. The sump is sinking with all speed, and the new shaft holed to the back of the adit level, when the platt will be cut, and driving at once commenced. May 25.—The south end, at the 20 fm. level, is still holding good, with lead, flookan, and prian, producing some fine work, the lode, which is 3½ ft. big, is all saving work; the end, driving north at this level, is much improved, the last "core" with good stones of ore. The ground is easy, having this day set the adit end at 20s. per fm. for 20 fms.—RICHARD NINNESS.

UNITED HILLS.—May 26.—In the 90 fm. level, in driving east and west of William's shaft, the lode still continues 2 ft. wide, good ore. In the 80 fm. level, in the rise, the lode is 4 ft. wide, orey throughout, of a coarse quality; in driving west the lode is 3 ft. wide, unproductive. In the 70 fm. level we have cut no lode yet; in driving south at this level, west of James's shaft, the lode is 18 in. wide, poor. In the Diagonal shaft the ground is a little improved since last reported. In the 60 fm. level, eastern end, the lode is 2 feet wide, ore of fair quality; west of Harper's winze, the lode is 3 ft. wide, orey throughout, of low quality; the lode in the stopes is 2½ ft. wide, 2 ft. good ore. In the 50 fm. level the ground is harder for driving than last reported. At Wh. Charles in the 50 fm. level, the lode is 18 in. wide, producing some stones of ore. In the 40 fm. level the lode is 2 ft. wide, coarse in quality. At Wheal Sparrow, in the 40 fm. level, the lode is 2 ft. wide, 1 ft. on the north part producing good stones of ore. In the 30 fm. level, the lode is 18 in. wide, 1 ft. ore of average quality.—T. TREVENNEN. R. WILLIAMS.

VENTON GIMPS.—May 27.—The cost for the month of April, exclusive of subsist for masons, is 131*l.* 15s. 1d. A small parcel of lead ore (4 tons 8 cwts.) has been sent to Truro. Hay's engine-shaft is in course of sinking with all speed, and a bargain of 5 fms. stent, set at 7*l.* per fm., by 12 men. The water is very quick, and, although the horse-engine goes night and day, not much can be expected to be done until the steam-engine goes to work. The walls of the engine-house will be up in the course of the ensuing month, and all works are proceeding rapidly, and with a strict regard to economy.—RICHARD ROWE.

WHEAL TRELAWNEY.—The lode in the 32 fm. level, north of the shaft, is 4 feet wide, worth 30*l.* per fathom; the lode in the same level south is 3 feet wide, and worth 25*l.* per fathom. The lode in the 22 north is 3 ft. wide, worth 20*l.* per fm.; in the winze, at the bottom of this level, south of the shaft, the lode is 3 feet wide, and worth from 20*l.* to 25*l.* per fm.; but in consequence of there being works in this winze, we are obliged to suspend sinking it for a few days; we hope, however, to be able to resume it by the end of this week. The winze under the 12 fm. level is suspended for the same reason; the lode is 2½ ft. wide, and worth from 20*l.* to 25*l.* per fm. All the stopes continue much the same. The shaftmen are getting on very well in sinking under the 32 fm. level. The last parcel of ore computed, 105 tons, was sold, the 16th inst., to Messrs. Mallin Brothers and Co., at 17*l.* 1s. 6d. per ton.—P. CLYMO.

WEST WHEAL JEWEL.—May 25.—In the 115 fm. level east, on Wheal Jewel lode, the lode is 15 in. wide, composed of spar and stones of copper. In the 100 fm. level west, on ditto, the lode is 8 in. wide, unproductive. In the 85 fm. level west, on ditto, the lode is worth 5*l.* per fm.; the winze, sinking below this level east, is worth 5*l.* per fm. In the 70 fm. level west, on ditto, the lode is 8 in. wide, containing occasional stones of ore. The ground in the rise, on Williams's cross-course, is favourable. The 12 fm. level east, on Wheal Jewel lode, is 15 in. wide, composed of gossan and spar.—S. LEAN. R. JOHNS.

WHEAL AGNES.—May 21.—I beg to inform you that I have had the lode cut at the bottom of the Cherry Garden, 35 fms. distant from the shaft, in the field; it is a very good lode, producing fine rocks of ore almost to the surface —it is a very promising concern. I have put six men to sink the shaft, and four to drive the adit level; I must get the dressing-floors in course as fast as we can, to begin our dressing, as we have a good pile of work to begin with.—May 25.—I have set the shaft to sink on the lode, by six men, where the lode is very good. I have set the adit level to drive by four men, where I expect to cut the lode in driving about 16 fms.; I have likewise commenced making dressing-floors, and hope to begin dressing as soon as possible.—B. ROBINS.

FOREIGN MINES.

ALTEN MINES.—The following is the estimated produce and report for April:

Mines.	No. of men.	Tons ore.	Per cent.	Tons copper.
Raipas	24	70	7¼	5·07
United Mines	14	55	3½	1·92
Mancur's	10	14	6	0·84
Ryper's	8	11	8	0·88
Old Mine	4	11	5	0·55
Total	60	161		9·26

Mining Report from the 1st to the 30th of April, 1846.

Raipas.—No important change can be observed in the appearance of the lodes in the several workings. The stopes continue to yield fair and regular returns, and the prospects are highly flattering, particularly in the 5 fm. level, and the shallow adit stope. About 60 tons of this month's produce have been driven to Bossikop—the recent thaw, has, however, put a stop to the carriage of ore for about six or eight weeks, after which we expect to make considerable returns to the smelting-house.

United Mines.—The stopes on Ward's lode have been more productive than for some months past; and, notwithstanding a partial falling off in the tribute returns from Woodfall's, the produce of the past month has, on the whole, experienced a trifling increase. In consequence of the difficulty of selecting and dressing the ore when mixed with snow, or covered with ice, the estimated per centage is taken much below the average of the last six month's returns. I hope, however, that, when the usual delivery is made to the smelting-house, the result of the assay will prove much higher than the estimate.

Mancur's.—An improvement has lately taken place at this mine, which, if permanent, will ultimately prove a valuable acquisition to the resources of the works. The south level, alluded to in my last report, after passing a short distance from the cross-course, became more regular and settled, and the ore at the same time increased in quantity and improved in quality; this level is now the most productive, as well as most promising, working on the establishment. The returns of ore cannot experience any great increase before the level has progressed several fathoms southerly; after which we may set roof and foot stopes with great advantage. The ground in the foot stope, No. 13, is very hard and difficult to excavate, and an alteration must be made in the present price, as the workmen have not earned above 31 per man during the whole of last month.

Ryper's.—The level is poor, and lode small and wet; but it will be necessary to drive a few fathoms further in the same direction, or until the old workings from the surface are intersected and unwatered. The two extra hands were placed on the bunch of ore before alluded to, and this, as well as the stope, is making good returns.

Old Mine.—The returns from the stopes have answered our expectations, and the prospects continue equally good.

Ore Dressing.—The late severity of the weather has greatly retarded the preparatory work at the stamps and machines. Ten days ago we had unusually mild weather, with every indication of the approaching summer; but during the past week there has been a constant succession of snow storms, and the thermometer has been as low as 7° Fahrenheit even at mid-day; at this time it does not rise above 27° or 28° in the shade. We shall be fully prepared to commence operations the moment the summer sets in.—S. H. THOMAS.

[FROM CORRESPONDENTS.]

BOTALLACK MINE.—This mine is now producing 17 tons of tin per month, which returns will be greatly increased when the levels are extended, and communicated with Park Bunny shaft, which will be completed very soon. The present position of the mine will enable the purser to declare a dividend; but the principal adventurers recommend withholding the sale of tin, until an advance in price takes place, which is anticipated very shortly.

WHEAL COCK, and other parts of the mine, continues just the same, no improvement having recently taken place.

NORTH UNITED MINES.—Since the last account meeting, these mines have considerably improved; they have a good course of ore in the 75 fm. level.

WHEAL MARY (Lanivet).—This mine is looking well in several of the ends driven at the adit level, rich stones of ore having, within the past fortnight, been broken in the backs and bottom of that driving east on No. 3 lode, being composed of yellow ore of high produce, in a kindly matrix. The operations at present, may be said to be mainly confined to cutting down the engine-shaft, which will take the lode (No. 1) at a shallow level, the other lodes, which are eight in number, underlaying north, will be intersected in the course of sinking; the main distance from the extreme north and south lodes being 70 fms.; the lodes, Nos. 1, 2, and 3, are within a space of 7 fms., the whole of which will, by the engine-shaft, be taken at a depth of 30 fms.—while cross-cuts can be put out to intersect the other lodes, the underlay being about 1½ ft. in a fm. It is proposed to erect an engine of 45-in. cylinder, so as to prove the ground efficiently, which, from the reports made by the several agents who have inspected it, cannot fail to turn out highly productive, it being situated immediately contiguous to the granite, with a kindly killas, and the lodes producing fine gossan, intermixed with ore in the backs.

TREWOLLACK MINE.—The operations here have been prosecuted with much vigour, the workings having only been commenced within the past two years, during which period an engine has been erected and set to work, the mine being down to nearly the 30 fm. level. The lode has been extended on in the adit level about 200 fms., with a large and kindly gossan, occasionally producing fine stones of lead, and improving as the lode goes in depth, in a blue and kindly stratum of killas. There are two other lodes within about 50 fms. of this lode, which it is proposed to cut as nearly as the present workings will admit. A large elvan course traverses the sett in the immediate locality of these lodes.

WHEAL BENNY (in the parish of Calstock).—The lode, known as Benny's lode, in the western part of the sett, was cut into about 8 fms., east of the cross-course, on Saturday last, and some very good stones of ore broken; consequently, the men have been put to stope here, and a pile of good ore is expected from it. The first of these lodes has not yet been cut, although it is expected very day; when done, they will have 70 fms. backs, and, should the lode prove as good as the back promises, there is no doubt she will make a standing mine.

TAVY CONSOLS.—The shaft is now down 17 fms., and in the bottom the lode is very good—a leader of ore, 2 ft. big, of excellent work; on the floors they have upwards of 20 tons of copper ore fit for the market.

WHEAL ST. CLEER.—Although the lode at the 45 fm. level was not found so good as anticipated, there is every ground, from the appearance of the lode at that level, to hope for a course of ore at the 60 fm. level, which is the next level they purpose seeing the lode at; as it appears, in driving the 45 fm. level south, they are continually cutting strings of ore, with peach, &c., dropping toward the lode. The shaft is sinking, and the levels extending, through a promising channel of ground. It is fully hoped, that the adventurers will be rewarded with a good course of ore at the 60 fm.; for they have certainly carried on their enterprize with the true spirit of mining.

CARADON COPPER MINING COMPANY.—A meeting of shareholders was held at Liskeard, on Tuesday, the 19th inst., when it was resolved:—That the purser be requested immediately to take legal steps to recover back calls;—and that a call of 1*l.* per 256th share be now made, payable to the purser forthwith.—The statement of accounts showed that the amount of Jan. costs was 43*l.* 18s. 11d.; Feb., 115*l.* 11s. 7d.; March, 75*l.* 17s. 6d.; balance against the company's last account, 18*l.* 8s. 3d.—together, 253*l.* 16s. 8d.: add balance now in favour of the company, 2*l.* 3s. 9d.—making 256*l.*—The following report from Capt. Rule was read to the meeting:—"Since our last meeting the engine shaft has been sunk to the 20 fm. level, and the shaft properly divided down and timbered, &c. We have cut a plat at this level, the north side of the shaft, and driven a cross-cut north from the plat 2 fms. In this cross-cut we have sunk a lode 8 ft. wide, containing spar, gossan, prian, peach, and a small quantity of black ore. We have driven a cross-cut south from the engine-shaft, which has intersected the south lode; this we find to be 2½ ft. wide, containing spar, a great quantity of mundic and peach, and some spots of yellow ore; but we have 8 or 10 fms. to drive east to get in, under where we had most of the jack and lead in the level above. The ground here is very favourable for driving, which I would recommend to have done with all speed, but I am of opinion that we must sink deeper to prove these lodes. We have also, as agreed on at our last meeting, purchased a 11-inch plunger, with 12 inch pumps; the lift all complete. The pumps were purchased at 6s. 6d. per cwt., nearly new, and all other parts at a proportionate price. Our water still holds out well, and I think we have quite sufficient power to sink two levels (20 fms.) deeper."

CARADON CONSOLS MINING COMPANY.—A meeting of adventurers was held on the 19th inst., when the accounts to end of March, having been examined and approved, were allowed and passed; and it was resolved, that a call of 4*l.* per share be made, payable immediately, to meet the existing balance, and for further prosecution of the mine. The accounts shewed the balance against the company, Jan. 20, 1846, as 285*l.* 19s. 1d; costs for Dec., 118*l.* 15s. 8d.; Jan., 130*l.* 6s. 8d.; Feb., 141*l.* 8s.; March, 404*l.* 13s. 8d.;—together, 1081*l.* 3s. 1d. By call of 3*l.* per 256th share, made Jan. 2, 1846, 768*l.*; received of Wheal St. Cleer adventurers, for materials, 7s.—together, 768*l.* 7s.;—leaving a balance against the company of 312*l.* 16s. 1d. The following report from Capt. James Clymo was read to the meeting:—"I wish to call your attention to the underground prospects and operations in this mine. There is a good bunch of ore gone down in the bottom of the 15 fm. level, the back of which is set on tribute. This lode has been intersected 12 fms. below, but it is rather disordered by a cross-course. The lode here is about 2 ft. wide, producing good portions of copper ore and fluor. The engine-shaft is sunk 2 fms. below the 27 fm., in which there is a lode 20 in. wide, composed of fluor, copper ore, and peach, higidly promising. About 4 fms. north there is another lode, which in the level above is 2 ft. wide, with good stones of copper ore; and is expected to be intersected in a fortnight at the bottom level. In the north engine-shaft there is a large gossan lode from 4 to 6 ft. wide, which has not been opened upon below the adit; the shaft is now nearly 30 fms. below that level, and we intend to intersect the lode in the course of two or three weeks, where we may expect favourable results."

CARADON WHEAL HOOPER MINING COMPANY.—A general meeting of adventurers was held at the mine, on Monday, the 18th inst.; when it was resolved, that a call of 2*l.* per share be made; and that the purser, with the assistance of the committee, be empowered to act with energy towards the present defaulters.—The following report from Capt. John Seymour, was read to the meeting;—"It affords me peculiar pleasure to meet you on the present occasion, having it in my power to lay before you a most satisfactory statement of the progress we have made, and the prospects we have before us. The shaft having been sunk 11 fms., and the ground still the same, I think it would be advisable to suspend our sinking operations for the present; to case and divide the shafts down to the present level, and cut a plat, the men having a heavy lift to sink, and 12½ fms. to draw the stuff with the tackle. As soon as these works are completed, to commence sinking immediately, and at the same time to begin a cross-cut, north and south, with six men in each end to intersect the lodes, as we have five lodes near the shaft. We shall have to drive but 4 fms. south

to cut Daw's lode, which is well formed and large, varying in size from 2½ to 4½ ft. wide; 11 fms. further south is Dingle's lode; 8 fms. from Dingle's lode is Carpenter's lode, from 3 to 4 ft. wide; this one has assumed nearly a perpendicular position, which is considered a very favourable indication. North of the shaft are two other lodes—viz: the Sawpit lode, about 12 fms. from the shaft and Seymour's 10 fms. further north. The last two lodes are very large, from 4 to 5 ft. wide, and have a promising character; these lodes have also assumed a perpendicular position. I think myself justified in saying that this mine holds out the most encouraging expectations, and I have no doubt that we shall make some valuable discovery at the 30 fm. level. From the appearances of the lodes, the strata we are sinking through, and the neighbourhood the sett is in, with other favourable indications, I think myself justified in recommending you to prosecute the mine with all the vigour you can, as there can be no doubt that it will prove productive in a short time; indeed I expect in a few months she will have a place in the Ticketing Papers."

SOUTH WHEAL MARIA MINING COMPANY.—At an adjourned meeting of adventurers, held at the New Inn, Callington, on the 20th inst., it was resolved that water machinery be erected, for the prosecution of the said mine. A call of 10s. per share was then made, for the erection of the said machinery, &c. A managing committee was also appointed to carry out the resolutions of the meeting. Every shareholder seemed full of confidence in the speculation, and appeared determined to give the lodes a fair trial in depth.

WHEAL MARIA (IN CROWAN) MINING COMPANY.—At a four monthly meeting held on the mine, it was resolved, that a call of 30s. per 1-256th share be made, and immediately collected; that it is expedient to procure an engine of about 40-inch cylinder, for the further prosecution of the mine; and that Messrs. Harvey, Clarke, and Eustis, with the purser and agents, be a committee empowered to purchase such an engine as speedily as possible; that Mr. G. Eustis be the engineer of this mine; and that the new engine shaft be sunk near to the west of Harvey's shaft. The statement of accounts showed the wages for Jan. and Feb., March and April, to be 750*l.* 5s. 3d.; merchants' bills for four months, 260*l.* 3s. 3d.; together, 1014*l.* 8s. 6d. By tin, sold May 1, (less dues, 11*l.* 15s. 6d.), 200*l.* 3s. 6d.; by fifth call of 30s. per 256th share, due June 26, 384*l.*; together, 584*l.* 3s. 5d.;—leaving a balance of 430*l.* 5s.; which, added to balance from last account of 261*l.* 5s. 4d., shows a total balance against the mine of 691*l.* 10s. 4d. The following report of Capt. Semmens and P. Pascoe was read to the meeting:—"Since the last meeting of the adventurers, on the 26th January, we have driven in the 10 fm. level, west of Harvey's shaft, about 30 fms. at 30*s.* per fm., during which it has produced good tin throughout, averaging from 6*l.* to 8*l.* per fm; in the back, over this level, there are eight pitches now in full course of working—viz.: four men at 4s. 6d.; four men at 6s.; four men at 10s.; three men at 11s.; two men at 12s. 6d.; two men at 10s.; two men at 12s.; and two men at 12s.; and, as soon as Semmens' shaft is holed to this level, which we expect to do this month, there will be ground for two other pitches, which will set, we think, at about 4s. or 4s. 6d. in the 1*l.* The 20 fm. level west has been driven 21 fms., and the lode for a good part of this distance has been in disordered ground; but for the last four or five fathoms, the ground appears more settled, and the lode is now 7 in. wide—this level is now 6 ft. to the west of Harvey's shaft; and, as soon as the shaft can be holed, which we think will be done in two or three weeks at furthest, there will be ground opened for two or three pitches at an average tribute of 7s. 6d. in the 1*l.*; the lode in the present end is not rich, but has every appearance of soon becoming a good lode, and there are now good veins of tin in it, and the ground very similar to that in the level above. In Hocking's branch, we have driven east from Harvey's shaft since the last meeting nearly 28 fathoms; it has produced some good tin, but at present the lode is small and poor—there are three pitches working in the back of this level, one at 6s. 8d., and two at 11s. in 1*l.* The 20 fm. level, east on engine lode, has been driven 28 fms., averaging about 1½ ft. wide—a very promising lode for copper, but it has not turned out so productive as we had reason to expect; it is now suspended, fearing to cut more water from the eastern ground—there is one pitch working in the back of this level at 12s. in the 1*l.* by four men. The 70 fm. level, east on Binner Downs lode, has been driven about 5 fms.; here there is also a very kindly lode, but it is at present suspended for the same reasons. Harvey's shaft has been holed to the 10 fathom level, and is now 7 fathoms under it; there has been good tin in this shaft for the 7 fathoms. Lilly shaft has been sunk from the surface to the 10 fathom level, and a new shaft, called Semmens' shaft, has been sunk 11 fathoms from surface. The east shaft has been sunk from the adit to the 10 fm. level, and holed by a cross-cut of 5 fms. In addition to the above, there is a cross-cut now driving north from engine-shaft at the 20 fm. level, now in about 4 fms.; and also another cross-cut, driving north from Harvey's shaft, at the 10 fm. level, now in 9 fms. 3 ft., and in daily expectations of cutting the lode. We have now employed in tutwork underground 20 men, and on tribute 35 men; and there is now on the mine and stamps between 600*l.* and 700*l.* of tin and ore."—After a vote of thanks to the chairman, the meeting separated.

MINING IN CORNWALL AND DEVON.—No. VI.

VENTON GIMPS.—This mine, which is situate in the parish of Perranzabuloe, county of Cornwall, extends about 400 fms. on the run of the lodes, which take a direction east and west. The sett was formerly worked by the Cornubian Mining Company, but is now under a new management, and worked on the cost-book system. A shaft has been sunk to the 18 fm. level, and some ore raised. A new engine-shaft is about being sunk, and erection of the necessary buildings and other works at surface, with the view of putting up a 50-in. cylinder engine, which has been purchased. The committee at present consists of James Hay, Abraham Lindo Mocatta, and George Mackay, Esqs., to whom two additional members will be added at the first general meeting. The London management is gratuitous, until the mine shall be in a profitable state. Meetings are to be held every alternate month. The number of shares into which the adventure is divided is 1000, on which 2*l.* per share has been called, and another 1*l.* per share contemplated in July. The estimate to fairly work the mine, and develope its resources at the 50 fm. level, is 5000*l.* Offices—4, Austin friars; J. J. Iselin, *hon.* secretary.

LOSTWITHIEL CONSOLS.—These mines are situate in the parish of St. Winnow, near Lostwithiel, and are held, for a term of 21 years, under grants from the Duchy of Cornwall, Lady Agar, and Colonel Carlyon, at 1-15th dues. The sett extends 700 fathoms east and west on the range of the lodes, and about 600 fathoms north and south. Eight lodes have been discovered, six of which take a direction east and west, one being a north and south lode, and the other a caunter, on the course of which latter an adit has been driven 105 fathoms. The mine is divided into 1024 shares, and is worked on the cost-book system. A committee will be appointed at the first meeting of shareholders, for managing the financial affairs of the company in London: the business of the company is transacted at the offices, 4, King-street, Cheapside—J. Crofts, Esq., sec.

TUCKERMARSH MINE.—This mine is on a lode discovered about seven months ago, in the parish of Beer, Devon, and is more westerly than any lode yet discovered; it runs north and south, and like most lodes in that district and of the same bearing, produces lead ore, rich in silver. About 60 fms. have been driven in a southerly direction from some low ground, by which the depth of 13 fms. has been gained, and a shaft is now sunk 15 fms., with the intention of taking the lode at above 10 fms. further in depth, or 23 fms. from the surface. The width of the lode has averaged about 2 ft., and nearly 40 fms. of ore ground has been gone through in driving the adit level, and a few cwts. of ore sold, at the rate of 25*l.* 10s. 6d. per ton. In addition to the ground first granted by Mr. James Toll, of Calstock, a very great length of ground on the course of the lode has been granted by Lord Mount Edgcombe; the mine is divided into 1000 shares, which are held by most influential parties, both in the neighbourhood of the mine and in London; and, from the present prospects, is likely to add to the productive discoveries of the eastern district. The dues are 1-15 dish or royalty, the term of lease being 21 years.

CAUTION TO COLLIERS.—IMPORTANT DECISION.—A case came on before the Justices of Peace Court, Hamilton, Scotland, at the instance of two colliers, who had been in the employment of the Stevenson Coal Company, against their employers, for payment of their wages. On the other hand, the company brought actions against the men for damages, owing to their having taken down part of one of the "stoops," or supports, of the roofs of the pit they worked in, contrary to the rules of the colliery. It turned out, that, on the day prior to that in which they were to leave the works, the men had taken down a large part of a "stoop" (a portion of the coal left to support the roof), and thus got their "darg" wrought much more easily, than if they had wrought the coals from the "wall" they were entitled to work at. The justices found, that they had forfeited their wages, and, in addition, amerced them in damages. This decision cannot be too widely known, as it may have a tendency to check a practice, alike dangerous to the men and the property of their employers—as the falling in of pits is the almost invariable consequence of removing the coal left to support the roof.

MINE ACCIDENTS.

Little Lever, near Bolton.—J. Bellis was killed by the accidental explosion o some blasting powder (left in a bottle), while working in Mr. Fletcher's colliery

Ffos-y-fran Pit, Penydarran Iron-Works.—J. Davies was killed by suffocation—and a companion, W. Lewis, met a similar fate in attempting his release.

Poynton.—J. Hibbert was suffocated by fire damp, while working in a colliery.

Great Work Consols Mine, Germoe.—J. Collick, aged 11 years, was dreadfully crushed, through one of the legs of his trowsers becoming entangled with the stamps machinery, whereby he was drawn in on the wheel.

East Wheal Rose Mine.—Elizabeth Jolly, whilst employed in her daily work on Friday last, at this mine, fell down, and in a few seconds expired.—A similar circumstance occurred at St. Agnes, and also at Mawgan in Pydar, within the last two or three days.

ST. JOHN DEL REY MINING COMPANY.

The annual general meeting of the shareholders was held at the offices, 8, Tokenhouse-yard, yesterday, the 29th instant.

J. D. POWLES, Esq., in the chair.

Mr. KEOGH (the secretary) having read the advertisement convening the meeting, the CHAIRMAN observed, that this was their annual meeting; but in consequence of the non-arrival of the packet up to the moment of holding the meeting, they had been prevented from preparing, as was usual, a report and statement of accounts—a circumstance unprecedented since the formation of the company; they knew sufficient, however, to say, that the report would be satisfactory; and it was their intention to declare a dividend of 10s. per share: they had made a dividend in November last, of 5s. per share, which left a balance in hand of about 1900*l.*; and after payment of this dividend of 10s., to be payable soon after the arrival of the packet, which had for them between 8000*l.* and 9000*l.* on board, there would remain in hand a balance of about 5000*l.* There would, on such receipt of despatches, be prepared a report, and statement of accounts, which would be printed and circulated among the proprietors. He begged leave to move, that to endeavour to prevent as much as possible the recurrence of such unpleasant circumstances, the annual meeting be held in future, on the second Friday in June.—This resolution was carried unanimously.

Stewart Donaldson and William Routh, Esqs., were then re-elected directors, having retired by rotation; and Sir R. Dobson and R. N. Inworth, Esq., were re-elected auditors.—It was then moved and seconded, that only one director in future go out of office by rotation, as during the retirement of two before the annual meeting, much inconvenience resulted to the acting three.

The CHAIRMAN explained, that there were formerly seven directors, when two annually resigned; but it having been considered that five would be sufficient, he thought it was very reasonable that only one should retire annually.—The motion was then carried unanimously.

A PROPRIETOR suggested that the dividend should be paid in June, as it would be of great convenience to many; and the CHAIRMAN said, he had no doubt such would be the case.—On the motion of Mr. BUCKLEY, seconded by Mr. ELLIS, a vote of thanks was passed unanimously to the chairman and directors, and the meeting separated.—The superintendent's yearly report to Dec., 1845, has been some time since printed and circulated, the details of which have been published from time to time, in the Journals of that year; on this occasion it was not alluded to.

CALLINGTON MINING COMPANY.

A special general meeting of the proprietors was held at the offices, Finsbury-square, on Friday, the 29th inst.—RICHARD HODGSON, Esq., in the chair.

The meeting, which was more numerously attended than those lately held, was convened for the purpose of confirming, or rescinding, the resolutions passed at the meeting on the 21st ult., for altering and amending the rules or regulations of the company, such being founded on the report and recommendations of the committee then submitted.—The circular, or advertisement, calling the meeting having been read,

The CHAIRMAN proceeded to state the specific objects of the meeting, and in pursuance of the course which he considered the most effective for accomplishing the end they had all in view—that of arriving at a position of bringing to a conclusion the several points which had been raised—he suggested that the several amendments or alterations, which had been made in the rules or regulations, should then be read, and the opinion of the meeting at once arrived at.

Mr. TYRIE, one of the committee, complained that there had been a negligence in some one quarter or the other, as it was not until one o'clock that day that he had received a copy of the amended rules, as legally framed, which led to some explanations on the part of the CHAIRMAN and Mr. SEWELL, the solicitor of the company.—Mr. FIELD, the chairman of the committee, while he expressed his regret that further time had not been given for comparing the fair copy with the rough instructions, or resolutions, agreed to at the previous meeting, expressed himself as objecting to the whole of the amendments, or alterations, being submitted in one resolution; he contended that, from the nature of them, the proper course would be to read them *seriatim*, and the opinions of the meeting taken at each on a separate measure.—This course was, however, resolutely opposed by the CHAIRMAN, who contended that the alterations had already been fully discussed—that they had passed—and that it was merely for the proprietors, by a vote in the affirmative or negative, to confirm or rescind the resolutions. He (the chairman) begged to state, that they had been drawn up with much care by one of the committee, Mr. Fearon, aided by Mr. Lewis, and had been subsequently submitted to Mr. Sewell, the solicitor of the company, who had fully approved them; they, in fact, although perhaps not strictly in the words of the resolutions, as originally passed, would be found fully to carry out the spirit with which such were framed.

Mr. FEARON felt himself called upon to state that he had, at much sacrifice, drawn up the rules, and had studied to adopt the principles laid down, if he did not strictly follow the language; indeed, there were difficulties to contend with, so as to meet the views of the shareholders, and the existing laws by which the company was governed.—After much conversation of a discursive and not very interesting nature, the CHAIRMAN proceeded to read the first rule, with the deviations proposed by the committee, and adopted at the last meeting of shareholders, increasing the number of directors to five, and making three a quorum. This resolution having been confirmed, he (the chairman) next read the second rule, and expressed his desire to pass on to the seventh, which had been cancelled, contending that the one could only be understood in connection with the other; while, he repeated, it was simply the office of those present to confirm, or not confirm, all other subject matter, which formed the principal feature in the observations made, must be considered as irrevelant.

Mr. FIELD contended that the passing of the second resolution in the proposed amended form would be virtually to negative the past proceedings, so far as expression of opinion was concerned, while it was calculated in a measure to stultify the committee. It proposed to elect five directors, including the present three; while he had ever been given to understand, that the spirit of the resolution was, that the election of five directors should be with the proprietors, and that their opinion should be taken on the propriety of re-electing the three gentlemen at present in office, or otherwise. He felt on this point most strongly; for while an expression had fallen from one of the directors of his willingness to retire, and which course he was in hopes would have been taken by the other two, under all the circumstances—for it must be admitted on all sides, that a listlessness and apathy had been manifested by the board as regards the accounts and management of the affairs of the company, which was much to be regretted, and which could not be too highly denounced, yet he was ready to admit, that he did not charge any culpability on either of the parties. He trusted that the gentlemen in the direction would afford some explanation of the course they had pursued, so directly opposite to the understanding which existed: he begged further to add, that although nominated as one of the committee of management, he had never attended, nor was it his intention to do so. In the course of his observations he, with some force, expressed himself as to the conduct of the chairman; who, in reply, claimed his office as chairman as his protection; he could not, by any remarks he might think fit to make, protect himself from the vituperative attacks of others, although he might interfere between any other members.

Mr. JAMES descanted at some length on the anomalous position in which the directors were placed; he considered that their past conduct would be admitted as having been correct, should they pass the amended resolution then before them. One gentleman had stated his intention of resigning; and he thought, had the whole of the directors adopted such course, they would at that moment have stood in a very different position.

The CHAIRMAN briefly stated, he could not answer any question thus raised—he repeated, the meeting was called to confirm the resolutions, or not. Let them, then, pursue the one course or other. It was true, that one of the directors had stated he would resign, and he believed he would have done so, but it had been the act of the other two that such resignation did not take place, as they had dissuaded him from that step: indeed, had he resigned at one meeting, they (the remaining two directors) had the power of re-electing him at the next, as two formed a quorum; and they would certainly have done so—hence any resignation, under such circumstances, would have been a mere farce.

Mr. ANDREW observed, that the spirit and object of the recommendations of the committee were, that a general change in the management should take place.—Mr. FEARON explained, that by the existing laws—indeed, until such were cancelled or amended as now proposed—the power of election of a director, or the re-election of the party who might vacate his seat, was alone with the directors; the proprietors, in fact, had no power; it was under such circumstances he had drawn the amended rule.

Mr. P. STAINSBY (the gentleman more particularly referred to in the course of the observations) observed, that it was perfectly correct that he had offered to vacate his seat, and he was still ready to act, as he had expressed his intention of doing, on the first opportunity which presented itself. It would be seen that, if the amended regulation be adopted, that opportunity would be afforded at the first annual general meeting; and he had no hesitation in stating to the meeting that he should, on such occasion, vacate his office as director, and throw himself on the suffrages of the proprietors to re-elect him, should they deem him worthy of their continued confidence; he did not, however, wish it to be understood, that he should offer himself for re-election, as that would depend on circumstances—at present, however, such was his intention.

The CHAIRMAN, for himself, begged the meeting to clearly understand that, while he continued to hold so large an interest as he did in the undertaking, as also his co-director (Mr. Lewis), it was not their intention to resign their seats until their turn came round, when they should present themselves for re-election. He felt it due to himself to state, that not one director in 100 in the City of London attended to his duties as he did.

Mr. FIELD submitted, that the best course would be at once for Mr. Stainsby to place himself in the hands of the proprietors for re-election, or otherwise; if some course could be laid down, whereby they might have the opportunity of expressing themselves, he would consent to the passing of the resolution, although he begged it to be clearly understood, it was not his intention to act as a director, although, by such resolution, his appointment would be confirmed.

After some further discussion of a similar nature, it was understood that Mr. Stainsby would resign his office at an early meeting of the directors, who would thereupon communicate with the proprietors, announcing their intention to re-elect that gentlemen, and whose opinions on the propriety of so doing would guide them, Mr. Field undertaking to attend the board in the office of a director on that particular occasion, when he would submit the question to the meeting of directors.

Mr. TYRIE begged to ask the solicitor of the company whether, in case the present rules should be amended, any subsequent meeting could be called to revise and amend any or all of the laws governing the company, or to cancel the same and substitute others?

Mr. SEWELL was understood to reply in the negative: he proceeded to read a case submitted to J. H. Lloyd, Esq., the barrister, with that gentleman's opinions thereon, which, however, principally effected the direction.

The second resolution having been adopted, the remainder were passed unanimously with but little observation, and the business of the day brought to a close. Previously, however, to the meeting breaking up,

Mr. P. N. JOHNSON, at the suggestion of one of the proprietors, stated to the meeting, that he had lately returned from Cornwall, and had visited the mines within the past week or 10 days; the mine still continued to be equally productive and promising as for the past six or seven months—it was not, however, compatible with the power they at present possessed to make larger returns, nor were the profits divisable among the proprietors, such as the mine actually yielded; for it must be borne in mind, that steam stamps, and a crushing mill, were in course of erection, which would be put to work on an early day; but with the demand for castings and machinery in Cornwall, it was impossible to determine the exact period. A branch had been lately cut east of the great cross-course, on the copper lode, which was highly favourable—the ground being promising; indeed, it was at this point in the adjoining mine (Holmbush)—that is, east of the cross-course—that such large quantities of ore of high produce were obtained; there was a large body of water to which attention would be carefully directed: this point was at the 80 fm. level, and, therefore, there were ample backs should the lode, as he contemplated, prove rich. This gentleman was proceeding, at some length, with an interesting *viva voce* report; when

The CHAIRMAN took up the thread of the discourse, evidently imagining he knew more than Mr. Johnson, having actually risked his "precious neck," as will be remembered to have been reported by him at a former meeting. As regards the machinery, he informed the proprietors he had actually written himself, but that he could tell them nothing.—The hon. gentleman was proceeding in a strain of eloquence when we quitted the room, and for aught we know, may be descanting on the merits and demerits—the advantages and disadvantages—of mining pursuits, even at the moment of writing, as we made our *congé* on the business of the day being brought to a termination.

MINING MANAGEMENT.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—The mining press has of late directed the attention of adventurers to the fact, of one gentleman in London having under his care several mines; but there is an evil in the —— district of far greater consequence—I allude to the system lately adopted, of appointing one individual to agencies, not only to many mines, but to mines in different and very distant localities.

Tavistock, May 26. AN OBSERVER.

BOTALLACK MINES.

SIR,—Please correct an error or two in your last *Mining Journal*, respecting the above mines; in the statement of the accounts, the profit is said to be 472*l.* 11s. 3d., but such is not the fact, as there was a former balance to the credit of the account, to the amount of 459*l.* 0s. 9d.—so that, in fact, the real profit is only 13*l.* 10s. 6d., and no *dividend*. The shares are also quoted at 300*l.* for 1-100th, whereas, at an auction held in this town last Thursday, not a single *bid* could be had beyond 200*l.*—A SUBSCRIBER: *Penzance, May* 27.

QUOTATION OF MINING SHARES.

SIR,—I beg to express my gratification for the leading article, on Mining Pursuits, &c., in your paper of the 23d, and do not hesitate to say, that if a more correct mode of procuring and disposing of mine shares were adopted, and of furnishing general information that could be confided in, mining would be better supported, and all parties interested be benefitted —AN ADVENTURER.

Tavistock, May 26.

MINERS' CLUB.

TO THE EDITOR OF THE WEST BRITON.

SIR,—It is with pleasure I perceive in the columns of your last Number [also in last week's *Mining Journal*] a letter from Mr. Paynter, putting forth suggestions for consolidating the miners in the several parts of Cornwall in one friendly society or club, for the mutual assistance and benefit of the whole. When we reflect on the condition of the miners of Cornwall, the accidents and sufferings they are exposed to, we cannot but wonder that some plan has not been put into operation for their benefit, in common with other classes of the community.

They commence working with as healthy and vigorous a constitution as any other class whatever; but in a few years, their pale faces and wasted frame proclaim that they have been subjected to a noxious and tainted atmosphere,—added to which, grief at not being sufficiently compensated to enable them to save a small sum from their poor pittance to live after they are unable to work, soon tends to put an end to their miserable existence. If a club, or something like it, could be established, it would, in a great measure, I think, tend to arrest the evil which exists. The clubs in the mines do not extend their benefits any farther than to accidents which happen in the mine, which does not stop the evil complained of; so the poor miner has nothing to subsist on but charity, or to resort to the union workhouse. Much honour and praise are due to Mr. Paynter from the miners themselves, for his suggestions on the subject; and I hope that he will be joined by some other philanthropic and right minded gentlemen, and put in practice what he has so nobly suggested, that it may alleviate the miseries and sufferings of a class of beings the most deserving, but the most neglected. They will then have the satisfaction at least of knowing, that if the project cannot confer all the good which it was intended it should have done, it will lighten the burden and distress of the miners in after life; and their names will go down to posterity associated with all that is noble and generous, and be treasured up in the hearts and affections of the Cornish miners.

Rejearne, Lelant, May 11. A MINER.

THE CORNISH MINERS—A DIALOGUE FOUNDED ON FACTS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—The following dialogue is not submitted so much for its provincialism, as to set forth that praiseworthy class of operators to which Cornwall is indebted for a great many, if not most, of its mines:—

Well, cumrade, howsta come on?—I heant seed tha fore for years, nevur sense we wor cumrades gethur down there in that howld poor air end; dustn thee knaw?—down i Kitty; thee shust go in heere weth awi, and have a' glass aw beer, thee shust go in.—Darn tha awi keant awi had too much beer n trade ready day, custa see awim blawd up like aw teek.—Trade?—thee artn gone buv a drop beer; well I tell tha, thee shust have whatever thees mind to.—I have had too much ready tell tha.—Well, thee shust ha some moor (pulled in, and after the first glass)—what arta in heere pon, are you?—Why, theres aw mitten aw the ventrurs in heere to Fergsons, South i Hope ventrurs, and I wor nevur vextur n my life n tie.—Vexed? thees had a belleyfull spose.—Hod jey? belleyful! ef I wor to eat so much es some I seed there, I shud be so sick es aw shag, I cuddn do et, and al take aw purty lot to make sum aw thum fuddle, I do reckon.—How wort a so vexed n you?—Why, for see they grand gentlemen troilen way pon poor men's pockets. 'Tes same es troilen way pon poor men's spence; for we keaut foord feasty way like gat tawi.—Es that all thee wort vex'd bout un?—No, nor yet heafe av ot.—Well, what wort nn?—Why, I'll tell tha. Thees knaw we gawt aw purty little bal down there; geat stones aw lead; why, not so much as a man can car—but geat stones aw lead—heafe hundurd weight in aw stone clain lead; aw purty little gob aw work es a man can see, and moor to break: aw keant be purtier, for aw es clain solid lead—thees knaw I do knaw lead.—And darn thaw thees knaw how hard we work'd gether fore now; and, ef aw poor man gaut aw little for to venture in aw new consarn, he oft to ha sumfen for ot. Thees knaw what I ventur'd down there for; twor for sill to vantage,—and hows a man goois for to sill, ef aw keant shaw aw stone aw lead?—I thoft they wor going to have aw kibbot full in there, pon the table, fore the genlemen for thum to see.—There wor genlemen there from all pearts—spectable sure nuf—and aw geat long table howld all the lead we brokt,—but darney I thoft how purty a raw av hedgers wud look from one end obtn to the tother.—You! I'll bet thec a kick in the tail they wor there for buying shares ef they cud see aw purty stone aw lead, dostn thee think they wor? his, but custn thee see? they wuddn shaw no lead. Ef awi had heafe so many shares innur es thee they shuddn hathum, thout money nuff to cumpuss ruff my house hum, we wor jest blawd out awvur the bed last night—zackley like gat naw. Twenty pound wel do we poor men some good; but they druth fellaws, moor they git, wuss they be—hungurd when their guts es full. Zackley so naw, thees spok my mind zackley, they'l make a meal av a poor man after fish and teates. Why custn tlee see you? What they wor pon? They deddn want for the genlemon present for to knaw there wor a stone aw lead in the bal ef they cud help ot, caze they wont to buy thurselves. Not het they sheant make aw meal av awi, ef they do I'l stick in their guzzles, why wustn thee un? His, wuddn awi lds, I wud be skimed ef awi deddn chuck the pass they shuddn clunk nothen no more.

Why dustna drink?—Drink! I'll drunch tha ethey dustn drink, thees knaw I'm a better man un thee.—Drink, tell tha!—Thee dustn mean ot?—His I do mean ot too, and ef thee dustn drink I'll jump down in thy throat myself, and stank ot dowu; here drink.—Thee say I shall drink wusta? well, here's health and luck.—Wheresta belong now un you?—Out to Budwick, they gawt a good bal there too, darnd ef they heant, comen way eastwards i Hope; tell bout the south ground I wud rather ventur pon they lodes now in the north peart aw Wel Hope setn n scores aw bals, shes aw purty sett, and they do knaw ot too; but thy sheant ha my shares thout they do come foarweard like genlemen, and give aw price in sight, aw feer price in soight; they be newvuring av us, but they sheant hathum.—Thee stand to that?—Geat carcasses othum, tis easy work mon gooin bout gitten aw money by newvuring poor men who do work hard for to mincy for thum. When they be setten down to a bal denner they do git moor money tealking tween the mouthfuls n we do git in a coor, gooin bunt plannen grinst us.—I wuddn sill ef I wor thee till the lead wor sowld, thee wust never ha nothen for thy shares, caze nobody weant knaw nothen bout the bal tell the lead is sowld.—Zackley like gat.—I do reckon a es time for us to gum I tell tha.—Why a heddn moor n ape ass our, time nuff het, drink up!—Mees Magar's beer weant hart tha, a heddn like our howld lap hum. I wonder what they be goois to give the new pusser, I spose the luther waddn grand nuff for them, set wrashy and like, when I do see un gen I'll swade n to woer spurticles next time aw do go pusser, ay bes aw quiot man, and aw capal schollur. You! dost thee knaw how tes such men es he caant git long bettur? No n tie aw will nevur do man, for to be all honesty aw must be

mixed heads and heads.—I do reckon tis caze he nevur lurnt to tealk same as theuse geat chaps.—Howld the tongue aw thee, dustn thee knaw how that hes?—What cummade? What?—Why how tee aw chevur quiet man keant git long same as theuse rogues?—No a tie, I thoft pon ot scores aw times.—Well I'll tell tha, tis case gen we take way *all the rogues, all the fools for want of wit, and all the fools for want of money*, there eddnt nuff left for an honest man to live by.—I'll be skinned of thee art n right, thee always wort cunninur n awi, awi shud never thoft upon that.—A MOLE: *April* 13.

OBITUARY OF THE LATE GEORGE CRANE, ESQ., THE FOUNDER OF THE ANTHRACITE IRON MANUFACTURE.

BY S. W. ROBERTS, CIVIL ENGINEER.

George Crane, Esq., the founder of the anthracite iron manufacture, died at his residence near Swansea, on the 10th of January, 1846, in the 62d year of his age. Mr. Crane was a native of Broomsgrove, Worcestershire, and for 15 years was engaged in the hardware business in Birmingham, from which he retired about the year 1820, with no intention of again engaging in business; but, becoming tired of an idle life, he visited Wales in 1823, and commenced making iron at the Yniscedwin Works, which then consisted of one small blast furnace. Those works are situated in Breconshire, in the picturesque valley of the Tawy, a small river which flows into the Bristol Channel at Swansea, and they are 18 miles from that port. When Mr. Crane took charge of them, and for a long time after, the smelting of the iron ore found in the vicinity was carried on with coke made from bituminous coal; but, as an extensive field of anthracite coal existed in the neighbourhood, which was considered useless for smelting purposes, his attention was early turned to the importance of bringing that fuel into use; and at different periods, during 14 years, he had, at a large outlay, tried a variety of plans to effect the object. Though repeatedly baffled he still persevered, and his efforts at length were crowned with complete success. Finding that the use of this hard and refractory fuel caused his furnace to chill, he resolved to try the effect of heating the blast to a temperature sufficient to melt lead, upon the plan so successfully introduced by Mr. Neilson, for increasing the yield of furnaces worked with bituminous coal. Having made the necessary preparations, he began the experiment with the hot-blast on the 7th of February, 1837, in a furnace 41 feet high and 11 feet in diameter at the boshes. From that date, until the 12th of March, the furnace was worked with roasted anthracite as the only fuel, and thenceforward exclusively with raw anthracite as it came from the mine, without any preliminary preparation. In all respects Mr. Crane's success was complete; his furnace worked well, the yield was better than with coke, and the iron was of superior quality. He felt that the problem to which so many experimenters had turned their attention, both in Europe and America, and to which he had devoted so much of his time, was triumphantly solved. He had accomplished the object on an extensive working scale, with continued and increasing success; and from this period dates the establishment of a new and important manufacture, from which the iron trade, both of Great Britain and the United States, is now deriving great advantages. The writer of this notice, who was at that time sojourning among the iron works in Wales, visited Mr. Crane's establishment in May, 1837, for the purpose of seeing the process, and of satisfying himself that the materials used were similar to those which exist so abundantly in Pennsylvania. Finding that the great object was accomplished, and that the results were highly gratifying, he communicated the fact to his friends in Philadelphia, by whom it was shortly after made public through the newspapers. At that time there was no blast furnace in Pennsylvania working with anthracite coal; their number in the state is now 27, and there are several in New Jersey.

At the meeting of the British Association for the Advancement of Science, held in Liverpool, in September, 1837, Mr. Crane attended and presented a paper descriptive of his process, which is printed in the sixth volume of the proceedings of that association. He had secured a patent in Great Britain and had applied for one in the United States, the issue of which was for some time delayed, owing to obstacles which grew out of the premature publication of his process in the *Mining Journal*. When great difficulties have been overcome by simple means, men are prone to depreciate the inventor, and in proportion to the number of the individuals, and to the importance of the interests benefitted, is the pertinacity with which his claims are contested. After he has made plain a path before untrodden, his merits are questioned as those of Columbus were by the Spanish courtier, whom the great Genoese so keenly rebuked by placing an egg on its end. Mr. Crane's case formed no exception to this general rule. His patent was infringed, and he became involved in a tedious and expensive litigation, which some of his friends feared might end in his ruin. At length, however, the question as to the validity of his British patent was decided in his favour, and thenceforward it became a source of much profit to him. He extended his works at Yniscedwin by the erection of several additional furnaces, and his concerns became highly prosperous. The validity of his patent in the United States has not been tested, although his process is extensively used. He consulted the writer of this notice as to the expediency of entering into litigation on the subject in that country; who, in reply, compared the case of Mr. Crane to that of Eli Whitney, the inventor of the cotton gin, the value of whose invention to the public made it the source of such vexation to the patentee. Mr. Crane is undoubtedly entitled to the honour of being the first to establish the smelting of iron with anthracite coal. At the time he succeeded, the business did not exist, and ever since it has gone on increasing. In testimony of this, the important works of the Lehigh Crane Iron Company, U. S., have been named after him, which were erected and are carried on under the able superintendence of Mr. David Thomas, who was sent out from Wales, by Mr. Crane for that purpose. Having lived long enough to see the object on which his heart was set completely accomplished, Mr. Crane died suddenly from the effects of a painful accident. Being somewhat indisposed, he had received two small bottles containing medical prescriptions, one intended to be used internally and the other as a liniment; and, by mistake, on the night of the 8th of January last, he accidentally took the contents of the wrong bottle which produced inflammation of the stomach, and carried him off in two days, notwithstanding the best medical aid. He was a man of great excellence and purity of character, warmly attached to the Episcopal Church, but liberal to those of different opinions. He was a friend to the poor, and active in visiting and relieving the sick. He always provided for the widows and orphans of his workmen, and saw that their orphan children were educated. His active exertions to promote the general welfare and the moral and religious improvement of those in his service, furnish a bright example for the imitation of other ironmasters. He died unmarried; but hundreds who were employed by him lament his loss as that of a father. We have reason to trust, that his spirit has passed from works unto rewards in a better and more enduring country.

THE DEMAND FOR LOCOMOTIVE ENGINES—(from the *Birmingham Advertiser*).—We have repeatedly heard the question asked "how is it we have no manufactory for locomotive engines in Birmingham?" and though personally unacquainted with one, we could scarcely bring our minds to consider it possible that such was the case. Inquiry, however, has satisfied us that this marvel is no more strange than true; and we consequently, with the utmost pleasure, give insertion to the following letter upon this important subject:—"SIR,—I see it stated, in Saturday's *Mining Journal*, that 'the demand for locomotive engines is so great, that the large makers *will not engage to execute fresh orders under three years*.' The agent of an extensive colliery proprietor, near Dudley, lately tendered a considerable order for engines, for mineral purposes, but it could not be undertaken within that period.' Permit me, through your columns, to put a few important questions to our enterprising capitalists and scientific men—How is it that there is not an extensive locomotive steam-engine manufactory in Birmingham? Is the spirit of a Watt and a Boulton, and the glory of our once famous Soho, departed from us? Why should "the Midland metropolis,"—the very centre of railways—surrounded by coal and iron—with her numerous mechanics and engineers of first-rate skill and ability not produce one locomotive engine? What! in these scientific days—this age of iron and steam—shall the great emporium of hardware manufacture continue to remain far behind other manufacturing towns, less favourably situated and circumstanced, and no attempt be made to render assistance to the gigantic power of progression? We have around and among us all the elements required in the production of steam-engines, and why are the railway companies, desirous of encouraging our manufactures, compelled to go to the North of England, to Scotland, or to America, for locomotive engines? We have our Midland Railway Carriage Companies established in Birmingham, why not our Midland Steam-engine Companies? I hope, Sir, you will take up this subject,—a subject so well deserving the consideration of our enterprising, wealthy, and scientific townsmen."—It is really extraordinary, that the birth-place of steam-engines should be so far behind in the *locomotive* race. If the first engine of this kind was constructed at Merthyr Tydvil 40 years ago, for the traction of coal and coke, surely in our iron district it might have been expected that locomotives for railways would long since have formed a staple article of manufacture; and now that trade is rather on the decline, the suggestion of our correspondent is especially worthy of consideration; as a manufacture of such articles to meet the very urgent demand would supply certain employment for the lathe, file, and hammermen, when other employment grows slack.

PARY'S MINE, AMLWCH.—The miners "turned out" for wages on Monday, and remained out until Wednesday, when, their demands not being complied with, they resumed work—giving notice of their intention not to work after finishing the present contract, unless an advance be given. They conducted themselves in a peaceable and orderly manner.—*North Wales Chronicle.*

GYTHON COLLIERY.—The workmen at Aber-Gwython have named the large engine, lately erected at this colliery, *Ivor Hael*, after the venerable Sir Charles Morgan, who recently inspected the improvements being made by the Messrs. Aldwy, in their new erections, and whose workmen, to the number of 200 or 300, are all native Welshmen, and do great credit to their employers.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Twelve o'clock.

Bank Stock, 7 per Cent., 206½ 5½
3 per Cent. Reduced Ann., 95¼ ¼
3 per Cent. Consols Ann., 96¼ ⅜ ¼
3 per Cent. Annuities, —
3¼ per Cent. Ann., 97⅞ ¼ ⅜
Long Annuities, 10⅛
India Stock, 10½ per Cent., 265½ 4½
3 per Cent. Consols for Acc., 96⅛ ⅜
Exchequer Bills, 1000*l.*, 15 19 pm.

Belgian Bonds, 4½ per Cents., 96⅛
Dutch, 2½ per Cent., 60
Brazilian, New, 5 per Cents., 82⅝ 2
Chilian, 3 per Cents., —
Mexican, 5 per Cents., 30½ 29½
Spanish, 5 per Cents., 24⅛
Ditto Deferred, —
Portuguese, 4 per Cents., 57
Russian, 5 per Cents., 110 9½

MINES.—The transaction of business in mining shares, during the past week, has been of the most limitted character; although several mines have considerably improved, still there has been no inquiry for shares. Epsom races appears to have had its influence in driving speculation from *underground* to the turf. Shares sold in Treleigh, Fortescue, Wheal Maria, Ting Tang, Holmbush, Caradon Consols, Wheal Gill, Wheal Tolgus, Wheal Trelawney, Wheal Mary Ann, West Wheal Jewel, Norris, &c. Foreign Mines.—St. John del Rey, Imperial Brazilian, Real del Monte, &c.

RAILWAYS.—There appeared a slight tendency to improvement in some of the English lines in the early part of the week; but the attraction of the races appear again to have caused a reaction. In Paris and Lyons shares a large sale took place on Tuesday, which caused an immediate decline of 10s. per share. The settlement day yesterday passed off satisfactorily, and was not a heavy one; business is still limited, and the foreign market is heavy.

The committee on the Oxford, Worcester, and Wolverhampton Line have decided, in consequence of an application from the ironmasters on the matter of tolls, in which they objected to the six mile clause, giving the company power to charge for one mile as for six—that such clause shall remain undisturbed on the main line, but that on the side line they should recommend that a three-mile clause be adopted.

Mr. Hudson stated before the committee on the Eastern Counties Company, that they could compete with the London and York, supposing it were made; he could also carry the public goods at a cheaper rate, and quite as speedily, if not more so.

Bills Passed the Lords' Committees.—Caledonian; Glasgow, Paisley, and Greenock (Pollack and Govan branch, and Airdrie and Monkland's branch); Newry, Warrenpoint, and Rostrevor; Rugby and Stamford; Airdrie and Bathgate.

In Lords, Declared not Proved.—Glasgow, Paisley, and Greenock, as far as regards Dundyvan branch.

Bills Passed Committees of Commons.—Midlands (Syston and Peterborough); Midland and Eastern Counties; Buckinghamshire (Tring to Banbury), Nottingham, and Mansfield; Burton-upon-Trent to Nuneaton; London and Birmingham (Euston-station Enlargement); Glasgow Southern Terminal; Grand Junction, Huyton and Warrington, and St. Helen's Canal and Railway; and Ipswich and Bury (Norwich Extension). Gartcash Branch amended and passed.

In Commons, Declared not Proved.—Ipswich, Norwich, and Yarmouth; Halesworth and Norwich; Norfolk Extension to Stowmarket; Waveney Valley and Great Yarmouth, and Ipswich and Bury St. Edmunds; Caledonian (Langholm Branch); North British Carlisle Extension.

The Northern and Southern Connecting Railway Bill was negatived on the second reading, without a division.

MEETINGS.—Midland Great Western (Irish), on Friday week, to consider several extensions—Mullingar to Athlone, Liffey branch to Longford, &c.; the chairman announced, that there was a large majority in favour of the bills.—Fleetwood, Preston, and West Riding, on Thursday week, when a majority, consisting of 9415, approved the bills.—York and Carlisle, carried by a large majority.—Manchester and Southampton: the town council of Portsmouth passed resolutions in favour of this line.—South and Midlands Junction: decided to wind up, 30s. per share to be returned out of the deposit of 42s.—Liverpool and Bury, on Saturday, to consider amalgamation with the Manchester and Leeds Line, and consented to by a majority of 8418 to 3879 votes.—Birmingham, Wolverhampton, and Stour Valley, on Saturday, affirmation unanimously carried.—London and Croydon, to consolidate this line with London and Brighton; also to make a branch to Deptford, and extend the Croydon and Epsom line to Dorking: these bills were severally approved of.—Liverpool, Ormskirk, and Preston, affirmation carried.—Dublin, Wicklow, Wexford, and Waterford, affirmation carried.—Cork and Waterford, carried by a large majority.—Oxford, Worcester, and Wolverhampton, affirmation carried.—Clonmell to Thurles, resolutions passed in favour of the bill.—Grand Junction, several bills now in progress by this company were sanctioned.—South Yorkshire Coal and Canal and Goole and Doncaster Railway, resolutions were unanimously agreed to in favour of proceeding with each of their bills.—Louvaine and Jemeppe a la Sambre: The first general meeting of this company was held at the London Tavern, on Monday last, when it appeared from the report, that the town of Louvaine had given the company an unconditional gift of a site of ground for a station; that the next call would be by easy instalments; and that there was now a division of 4 per cent., available on the paid-up capital of the company. The balance-sheet showed that the receipts had been 159,652*l.* 17s. 2d., of which 60,000*l.* was with the Belgian Government, and 65,725*l.* in the Bank of Flanders.—Dover and Deal bill, approved unanimously.—Great Western branches, approved.—Lancaster and Carlisle, approved.—Whitehaven and Furness, approved.—Larne, Belfast, and Ballymena, and Dublin, Coleraine, and Belfast Junction, approved.—London and Portsmouth Direct Atmospheric, yesterday, when it was stated by the chairman, Mr. W. A. Wilkinson, that they had made most beneficial arrangements with both the Croydon and Brighton Companies, they were to be allowed to pass free over the latter line, until they could realise 47 per cent. on their capital, and an amalgamation with both was in contemplation; there were 13,801 shares represented, and the progress of the undertaking was carried almost unanimously.—Exeter and Great Western, affirmation carried.—Midlands and Eastern Counties Junction, majority of assents.—Irish Great Western, affirmation carried.

MESSRS. LAMOND'S SALES.—TUESDAY.—Ipswich and Bury St. Edmunds, Norwich Extension (2*l.* 10s. pd.), 2*l.*; London and York (2*l.* 10s.), 2*l.* 9s. 6d.; Norfolk Extension (2*l.*) 1*l.* 15s.; Guildford and Portsmouth (5*l.*), 4*l.* 5s.; South Midland (2*l.* 2s.), 1*l.* 10s.; Leicester and Bedford (1*l.* 2s.), 1*l.* 5s. 6d.; Buckinghamshire (2*l.* 2s.), 2*l.* 6s.; Direct London & Portsmouth Atmospheric (3*l.* 15s.), 3*l.* 5s.; Shrewsbury & Birmingham (2*l.* 10s.), 2*l.* 17s.; Shrewsbury and Hereford (2*l.* 12s. 6d.), 1*l.* 13s.; Dublin and Galway (4*l.*), 3*l.*; Northampton, Banbury, and Cheltenham (2*l.*), 1*l.* 2s.; North Staffordshire, Churnet, and Potteries (2*l.* 2s.), 6*l.* 3s.; Newry, Warrenpoint, and Rostrevor (2*l.*), 2*l.* 7s.; Warwickshire and London (2*l.* 2s.), 1*l.* 17s.

FRIDAY.—North Staffordshire, Churnet, and Potteries (2*l.* 2s.), 5*l.* 15s.; Ipswich and Bury St. Edmunds, Norwich Extension (2*l.* 10s.), 2*l.* 10s; Goole and Doncaster (2*l.* 2s.), 1*l.* 6. 6d.; Southampton, Manchester, and Oxford (2*l.* 2s.), 1*l.* 5s.; Rugby and Huntingdon (2*l.*), 1*l.* 2s. 6d.; Cornwall and Central Devon (2*l.* 12s. 6d.), 1*l.* 7s. 6d.; Buckinghamshire (2*l.* 2s.), 2*l.* 3s. 6d.; Manchester, Sheffield, and Midland Junction (5*l.*), 2*l.* 4s.; London and York (2*l.* 10s.), 2*l.* 7s.; Eastern Counties Extension (10s.), 1*l.* 2s. 6d.; West Riding Union (2*l.* 2s.), 4*l.* 12s.; North Kent (2*l.* 10s.), 1*l.* 16. 6d.; Rugby & Huntingdon (2*l.*), 1*l.* 2s.

LEEDS, THURSDAY.—The uncertainty that prevails as to the fate of the corn bill in the House of Lords, and the near approach of the Whitsuntide holidays, combine to render prices very steady and business limited. We do not apprehend ourselves that the Lords will reject Sir R. Peel's measure; and, consequently, do not anticipate that the stagnation on this account will be of long continuance.—R. B. WATSON, TOOTAL, & BARFF.

IRISH STOCKS, RAILWAY SHARES, &c.—3 per Cent. Consols, 95½*l.*; 3½ per Cent. Stock, 97¼*l.*; 3 p. Ct. Reduced, 94½*l.*; 4 per Cent. City Debentures, —*l.*; Bank Stk., 211*l.*—Belfast and County Down Railway, 1¼*l.*; Cork and Passage, 1½*l.*; Great County Down, Belfast, Newry, &c., 1½*l.*; Great Southern and Western, 24¼*l.*; Irish Great Western (Dublin to Galway), 2½*l.*; Dublin & Belfast Exten., 1½*l.*; Dublin & Drogheda, —*l.*; Dublin, Belfast, and Coleraine Junction, —*l.*; Dublin & Sandymount, 1½*l.*; Irish North Midland, ½*l.*; Killarney Junction, ¾*l.*; Newry, Warrenpoint, and Rostrevor, 2½*l.*; Dundalk and Enniskillen, —; Dublin and Kingstown, —*l.*—Mining Company of Ireland, 12½*l.*; Wicklow Copper Mine, 16½*l.*—Hibernian Bank, 29½*l.*—Royal Bank, 12½*l.*—National, 19½*l.*

TUNNEL UNDER GREENWICH PARK.—It has been determined by the directors of the South-Eastern Railway Company to pull down the Greenwich terminus, the Railway Tavern (known as the Prince of Orange), together with several shops and newly-erected dwelling-houses adjoining, and to erect a splendid terminus on Croom's-hill in its stead, alongside one of the smaller entrances into the park. The new tunnel will commence at the Crook-bridge, which separates Greenwich from Deptford, and continue under the town of Greenwich, the lower part of the park next Greenwich Naval School, Maize-hill, onward by the back of the union workhouse in the Woolwich-road. Here the tunnel is to end, and the line continue forward to Woolwich, Dartford, Gravesend, &c. From the estimates made by the surveyors, the directors consider that they shall be able to complete the works to Gravesend, and open it for public traffic in the course of the next 12 months. The tunnelling is intended to obviate the vibration complained of as likely to arise, and which the Astronomer Royal considered would affect the scientific studies of the Royal Observatory.

SUBSTITUTE FOR STONE.—Yesterday, a gentleman from Wales waited on several of the Liverpool builders, and offered to supply heads, sills, and other materials as substitutes for masonry, made out of the Welsh fire-clay. It has a beautiful appearance, and can be supplied at less than half the cost of stone.—*Liverpool Mercury* of yesterday.

IRON SHIPBUILDING IN CORK.—On Tuesday evening next, the enterprising firm of Lecky and Beale, intend launching from their shipbuilding-yard, Hargrave's-quay, a splendid screw schooner of over 250 tons burthen, built for the Cork Steam Ship Company. This is the second ship launched in our river for this company within a few weeks, and it is gratifying evidence of the perseverance and skill with which so useful and important a branch of trade is being prosecuted among us by the firm to which the artizans of our city are indebted for the introduction of so extensive and profitable a source of employment.—*Cork Ex.*

A change, says the *Daily News*, is to take place in the line of communication between Paris and Madrid, which, in consequence of the opening of the railroad to Tours, will diminish by 24 hours the distance between the two capitals.

RAILWAY SHARE LIST.

RAILWAYS.	Paid	Closing pr. last week.	Closing pr. last night.
Aberdeen	£10	4½	5
Amber, Nottingham, Boston, and Erewash Junction	2½	1½	1⅝
Armagh, Coleraine, and Portrush —25*l.* shares	1½	—	—
Birmingham and Gloucester—100*l.* shares	100	124	125
Birmingham and Oxford Junction—20*l.* shares	2	2¼	2⅝
Bristol and Exeter—100*l.* shares	70	83	84½
Bristol and Gloucester—50*l.* per share	30	50⅝	51*
Caledonian—50*l.* per share	5	10⅝	11⅛
Cambridge and Lincoln—25*l.* shares	1½	—	—
Chelmsford and Bury	1½	—	⅜
Chester and Holyhead—50*l.* shares	15	21¼	—
Cork and Killarney—50*l.* shares	2½	—	—
Cork and Waterford—25*l.* shares	1½	—	—
Cornwall—50*l.* shares	5	2	—
Derby, Uttoxeter, and Stafford	2½	1⅝	—
Direct Northern—50*l.* shares	2½	—	1½
Direct Manchester (Remington's)—20*l.* shares	2½	⅜	⅜
Ditto Rastrick's	5½	3½	3¾
Dublin and Belfast Junction—50*l.* shares	10	6¼	—
Dublin, Belfast, and Coleraine—50*l.* shares	2½	—	—
Dublin and Galway—50*l.* shares	4	3¼	2⅝
Dundalk and Enniskillen—50*l.* shares	2½	—	—
Eastern Counties—25*l.* shares	14*l.* 16*s.*	23	23¼
East Lincolnshire	1½	1	—
Edinburgh and Glasgow—50*l.* shares	50	75	75
Edinburgh and Perth	3	—	—
Exeter, Yeovil, and Dorchester—50*l.* shares	2½	1½*	2
Goole and Doncaster—20*l.* shares	42*s.*	½ dis.	¼
Grand Junction—100*l.* shares	100	—	—
Grand Union (Nottingham and Lynn)	1½	⅜	⅜
Great Grimsby and Sheffield—50*l.* shares	5	—	—
Great Southern and Western (Ireland)—50*l.* shares	15	23	23
Great North of England—100*l.* shares	100	220	—
Great Western—100*l.* shares	80	142	146
Guildford, Farnham, and Portsmouth—50*l.* shares	5	4¼	4⅝
Hull and Selby—50*l.* shares	50	103½	103
Isle of Axholme	2½	—	—
Lancaster and Carlisle—50*l.* shares	25	56¾	—
Leeds and Carlisle	2½	—	—
Leicester and Birmingham—20*l.* shares	22*s.*	¼ dis.	¼ dis.
Leicester and Bedford—20*l.* shares	22*s.*	¼ pm.	¼ pm.
Leicester and Tamworth—20*l.* shares	42*s.*	¼ dis.	¼ dis.
Liverpool and Leeds Direct—50*l.* shares	2½	—	—
Liverpool, Manchester, and Newcastle Junction	1½	2	2¼
London and Birmingham	stock.	225½	228
London and Birmingham Extension—25*l.* shares	1½	—	—
London and Blackwall	Av. 16*l.* 13*s.* 4*d*	7⅛	—
London and Brighton—50*l.* shares	50	64¾	64⅝
London and Croydon	Av. 13*l.* 15*s.* 9*d*	22½	22⅝
London and Greenwich	Av. 12*l.* 15*s.* 4*d*	9⅜	—
London and South Western	Av. 41*l.* 6*s.* 10*d*	78½	79½
London and York—50*l.* shares	2½	2⅜	2¼
London, Warwick, and Kidderminster—50*l.* shares	2½	—	—
London, Salisbury, and Yeovil—50*l.* shares	2½	2	1½
Londonderry and Coleraine—50*l.* shares	2½	—	6
Londonderry and Enniskillen—50*l.* shares	5	—	—
Lynn and Ely—25*l.* shares	5	13½	13¾
Lynn and Dereham—25*l.* shares	5	6	—
Manchester and Leeds—100*l.* shares	82	123½	127
Manchester and Birmingham—40*l.* shares	40	80	81½
Manchester, Buxton, and Matlock—20*l.* shares	42*s.*	1 pm.	¼ pm.
Manchester and Southampton	2	1¼	1⅝
Midland	Stock	150	150
Ditto Birmingham and Derby	Stock	120	—
Midland Great Western (Irish)—50*l.* shares	2½	—	3¼
Newcastle and Berwick—25*l.* shares	10	24½	25
Newcastle and Carlisle—100*l.* shares	100	—	—
Newcastle and Darlington Junction—25*l.* shares	25	44	45
Ditto New (Brandling)—25*l.* shares	20	44	43½
Newport and Abergavenny	2½	—	—
Newry and Enniskillen—50*l.* shares	2½	—	—
Newark, Sheffield, and Boston—25*l.* shares	2½	—	—
North British—25*l.* shares	17½	29½	30
North Devon	2	1	—
Northern and Eastern—50*l.* shares	45	—	—
North Kent and Direct Dover—50*l.* shares	2½	1⅝	1⅝
North Staffordshire—20*l.* shares	42*s.*	3¾ pm.	2¾ pm.
North Wales—25*l.* shares	3½	—	—
Norwich and Brandon—20*l.* shares	18	—	—
Northampton, Banbury, and Cheltenham	2	1	—
Oxford, Worcester, and Wolverhampton	12½	8	8¼
Perth and Inverness	2½	—	—
Portsmouth Direct—50*l.* shares	3⅜	3¼	3¼
Preston and Wyre—50*l.* shares	50	30½	30½
Richmond—20*l.* shares	5	16	—
Rugby and Huntingdon—20*l.* shares	2	1⅜	—
Scottish Central—25*l.* shares	7½	16½	16
Scottish Midland—25*l.* shares	5	—	—
Sheffield and Manchester—100*l.* shares	100	—	—
Shrewsbury and Birmingham	2½	2¾	2⅞
Somersetshire Midland	2½	—	—
South Devon—50*l.* shares	25	34*	33½
South Eastern and Dover	Av. 33*l.* 2*s.* 4*d*	39	38½
South Midland—20*l.* shares	42*s.*	¼ dis.	¼ dis.
South Wales—50*l.* shares	5	2½	1⅝
Staines and Richmond—20*l.* shares	1	¾	¾
Trent Valley—20*l.* shares	5	—	—
Trent Valley and Holyhead Junction—20*l.* shares	2½	—	—
Vale of Neath	2	1⅝	—
Waterford and Kilkenny—20*l.* shares	3	4	—
Welsh Midland	2½	1½	1⅝
Wilts, Somerset, and Weymouth—50*l.* shares	2½	—	—
Yarmouth and Norwich—20*l.* shares	20	—	—
York and Carlisle	2½	1½	—
York and North Midland—50*l.* shares	50	98	98½
Ditto Selby—50*l.* shares	30	—	74½
FOREIGN RAILWAYS.			
Boulogne and Amiens—20*l.* shares	10	11⅞	11⅝
Bordeaux and Toulouse and Cette (Mackenzie)—20*l.* shares	2	—	1⅞
Bordeaux, Toulouse, and Cette (Espalete)—20*l.* shares	2	—	2
Central of Spain—20*l.* shares	2	1½	1½
Dutch Rhenish—20*l.* shares	5	7⅛	7⅛
East Indian	¾	⅜	⅜
Great Northern of France (constituted)	5	—	14⅞
Great Western Bengal	¾	⅜	—
Great Western Canada—22½*l.* shares	3¾	—	3⅞
Jamaica and South Midland Junction—20*l.* shares	1	1½	—
Jamaica North Midland	1	—	—
Louvaine and Jemappe—20*l.* shares	4	1½	1⅝
Lyons and Avignon—20*l.* shares	2	—	—
Luxembourg	4	2	1⅞
Namur and Liege—20*l.* shares	4	4	3⅝
Orleans and Vierzon—20*l.* shares	10	—	14⅜
Orleans and Bordeaux—20*l.* shares	6	10½	10½
Paris and St. Quentin—20*l.* per share	2	—	—
Paris and Orleans—20*l.* shares	20	—	—
Paris and Rouen—20*l.* shares	20	—	—
Rouen and Havre—20*l.* shares	18	—	28⅞
Sambre and Meuse—20*l.* shares	6	5	5
Strasburg and Basle—14*l.* shares	14	—	—
West Flanders	4	2½	2½

* Prices obtained from country brokers—no business doing in the London market.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Last Div.	Traffic Returns. 1846	1845
Arbroath and Forfar	15	£140,782	3½ *p.c.*	—	£178
Chester and Birkenhead	15	589,632	2½	591 11 0	613
Dublin and Drogheda	32	631,258	4	759 19 4	1003
Dublin and Kingstown	6	349,736	9	1026 9 5	1042
Dundee and Arbroath	17	153,598	6	272 2 0½	301
Durham and Sunderland	19	302,118	2	603 19 11	333
E. Counties & North. & East.	124½	4,090,328	5	8570 3 11	5068
Edinburgh and Glasgow	46	1,686,226	5	3328 12 3	2834
Glasgow, Paisley, and Ayr	51	1,104,773	6	2186 19 7	1884
Glasgow, Paisley, & Greenock	23	806,134	2	1040 9 3	1103
Grand Junction Company *	119	2,597,317	10	—	10005
Gravesend and Rochester	7	85,000	—	206 19 11	159
Great North of England	45	1,296,196	6	—	1853
Great Western	220	8,179,980	8	18998 10 1	18462
Hartlepool	—	—	—	954 9 5	—
London and Birmingham†	176	7,417,217	10	37462 3 0	20407
London and Blackwall	4	1,078,851	1½	1131 9 1	1018
London and Brighton	69	2,653,673	7	4607 10 0	4454
London and Croydon	10	842,592	5½	1607 1 0½	1283
London and South-Western	93	2,620,724	10½	7000 15 1½	7000
Manchester and Birmingham	31	2,197,585	6	4348 3 11	4571
Manchester & Leeds	51	3,972,869	8	6106 0 11	6117
Manchester, Bolton, & Bury	10	842,725	6⅝	1072 19 11½	981
Midland Company	179	6,636,105	6	16060 10 4	11882
Newcastle and Carlisle	65	1,137,385	5	1934 13 2	1571
Newcastle and Darlington	22½	1,272,031	9	2789 1 11	1156
Newcastle and North Shields	7	316,869	5	503 6 11	334
Norfolk	59	573,818	5	1304 14 5	—
North Union, Bolton &c.‡	32	1,060,551	6½	—	—
Preston and Wyre	22	432,014	2	702 6 7	444
Sheffield and Manchester	19	1,313,225	2½	1619 9 4	827
South-Eastern and Dover‖	103	4,284,994	3½	7102 19 9	6075
Taff Vale	30	648,318	5	1223 11 4	1062
Ulster	25	358,353	3½	588 17 5	583
Yarmouth and Norwich	20½	250,037	5	—	228
York and North Midland	53	1,632,859	10	5053 8 1	2693
Paris and Orleans	82	2,083,916	8	4394 16 9	5460
Paris and Rouen	84	1,995,306	9	5947 0 0	5216

* The traffic return of this company is now included in the London and Birmingham
† Including the Grand Junction Company. ‡ Including the Greenwich line.
§ Included in the Manchester and Leeds. ‖ Included in Eastern Counties.

PRICES OF MINING SHARES.

Shares.	BRITISH MINES. Company.	Paid.	Price.
235	Andrew and Nangiles	25½	25
1000	Barristown	4½	36
4000	Bedford	2½	5
128	Beasore Lead Mine	—	35
320	Birch Tor Tin Mine	10¾	12
8000	Blaenavon	50	40
100	Botallack	175	250
120	Brewer	—	10
10300	British Iron, New, regis.	10	19
—	Ditto ditto, scrip	10	19
128	Budnick Consols	—	30
100	Bwlch Cwmerfin	20	200
1000	Callington	19	26
256	Caradon Consols	45	55
256	Caradon Copper Mine	9½	7
256	Caradon Mines	4½	36
256	Caradon United	24	16-25
256	Caradon Wh. Hooper	12	7
1000	Carn Brea	15	120
114	Charlestown	—	240
236	Chypraze	—	16
1900	Combmartin	5½	4½
128	Comfort	—	50
5000	Con. Tretoil Mining Ass.	3¾	2¼
128	Condurrow	31	50
2560	Cook's Kitchen	—	6
1000	Copper Bottom	1	5
3200	Cornubian Lead Co.	3	—
1024	Cosheen	4½	25
240	Craddock Moor	9	33
128	Creeg Braws	120	80
500	Cubert Mine	11	30
1024	Devon & Courtney Con.	3	4
1000	Dhurode	2	5
186	Dolcoath	—	80
10000	Durham County Coal	45	9
128	East Pool	5	40
9000	East Tamar Consols	1½	3½
—	East Wheal Albert	1	3
256	East Wheal Alfred	6½	150*
94	East Wheal Crofty	—	400
256	East Wheal Kitty	¼	½
128	East Wheal Rose	50	1300
123	East Wheal Seton	2½	12
512	Fowey Consols	—	50
20000	Galvanised Iron Co.	10	10
10000	Gen. Mining Co. for Irel.	½	¼
1000	Godolphin	—	35
256	Gonamena	19	120
128	Gover	23	200
244	Grambler & St. Aubyn	—	30
100	Great Consols	1000	400
256	Great Calestick Moors	—	13
2560	Great Mitchel Consols	—	2
100	Grogwinion	5	20
1000	Gunnis Lake	1½	3
128	Hallenbeagle	—	50
1000	Hanson	5	3
1000	Harrowbarrow Old Mine	3½	4
1000	Harrowbarrow Consols	2	¾
800	Hawkmoor	3	4
6000	Heignston Down Con.	1	2
256	Herodsfoot	19	12
10000	Hibernian	12½	1
1000	Holmbush	14	18
256	Ivy Tor	1½	2½
1200	Kirkcudbrightshire	1½	½
2048	Lamerhooe Wh. Maria	6	5½
128	Lanarth & Penstruthal	—	150
2048	Lanivet Consols	2	5
200	Larkholes	1	3
160	Levant	—	150
1000	Lewis	12	4
128	Ludcott	3	3
2800	Marke Valley	10	4
20000	Mining Co. of Ireland	7	12½
1000	Nant-Air-Nelle	2	2½
200	Nanterrow Consols	10½	15
128	New East Crowndale	7½	2
128	North Fowey Consols	10	25
100	North Pool	11	40
70	North Roskear	10½	380
256	North Treburget	2½	4
100	North United	41	20
128	North Wh. Providence	2½	10
256	North Wheal Rose	26½	25
15000	Northern Coal Co.	23	2
600	Old Delabole Slate Co.	25	45
128	Par Consols	—	500
256	Penhallow Moor	15	5
100	Penrhiw	30	65
128	Pen-y-Cefn Mine	50	55
1280	Perran St. George Un.	13	20
512	Plymouth Wh. Yeoland	1½	3½
10000	Rhymney Iron	50	33 4
256	Rose Consols	10	7
1000	Rosewall Hill	1	3½
1024	Roscarrock	2½	—
2500	Silver Valley	3	3
256	Sourton Consols	3½	5
128	South Caradon	10	400
260	South St. George	9¾	15
200	South Harvannah	23	26
800	South Towan	10	1½
256	South Trelawney	8½	16
128	South Yeoland	16½	20
128	South Wheal Basset	—	190
124	South Wh. Francis	—	90
1034	South Wh. Maria	—	2
10000	Southern & Western, Irish	1	2

Shares.	BRITISH MINES—*continued.* Company.	Paid	Price
256	South Wheal Rose	2	3
256	St. Austell Consols	6	20
94	St. Ives Consols	—	600
1000	Stray Park	43	18
9600	Tamar Consols	3	5
6000	Tincroft	7	13
256	Ting Tang	67	25
128	Tokenbury	124	50
1024	Trelawney Consols	1½	1
5000	Treleigh Consols	6	4½
256	Trenow Consols	—	170
96	Tresavean	10	250
120	Trethellan	5	50
120	Treviskey and Barrier	61	120
256	Trewallack	—	35
128	Trewellard	12	25½
4000	United Hills	5	4½
100	United Mines	300	800
128	West Basset	10	15
256	West Caradon	20	340
128	West Cargoll	2	15
512	West Fowey Consols	40	35
—	West Kekewich Consols	—	3½
256	Wheal Kekewich	4	10
256	West Providence	—	12
200	West Seton	—	50
120	West Trethellan	5	32
256	West United Hills	1½	10
256	West Wh. Friendship	3	10
3845	West Wheal Jewel	11	2½
2560	West Wh. Maria	½	3
2560	West Wh. Mitchell	—	2
256	West Wheal Shepherd	—	12
256	West Wheal Tolgus	21½	18
256	West Wheal Treasury	12	5
240	Westerlake	3	3
6000	Wicklow Copper	5	16½
256	Wheal Albert	10	8
128	Wheal Acland	13	10
256	Wheal Allen	½	4
368	Wheal Anderton	10½	11½
128	Wheal Ann	—	50
256	Wheal Blencowe	—	20
256	Wheal Boscastle	3½	9
236	Wheal Byon	½	3
128	Wheal Catherine	5½	5
256	Wh. Cleveland	2½	2½
136	Wheal Clifford	—	200
1024	Wheal Concord	3½	3½
256	Wheal Fortescue	4½	14
384	Wheal Franco	22	40
256	Wheal Gill	17½	35
1000	Wheal Harriet	1	—
128	Wheal Henry	—	5
109	Wheal Hope (Zennor)	23	25
256	Wheal Hope	7	1½
256	Wheal Jane	6	40
265	Wheal Kendall	11½	5
1024	Wheal Maria	1	700
4000	Wheal Martha Consols.	4	4
256	Wh. Mary Ann	5	92
1024	Wh. Mary (Calstock)	2½	1½
256	Wheal Mary Consols	15	15
256	Wh. Mexico	5	6
256	Wheal Mary Lanivet	2½	20
256	Wheal Norris	9	10
128	Wheal Penrose	—	5
128	Wheal Pollard	11½	12
128	Wheal Prospect	4	9
128	Wheal Providence	34	40
128	Wheal Reeth	1	60
256	Wheal Robins	13	2
128	Wheal Rose	40	25
256	Wheal Salusbury	13	5
512	Wheal Sarah	2½	5
99	Wheal Seton	150	900
256	Wheal Sisters	25½	35
128	Wheal St. Cleer	21½	30
260	Wheal Trelawney	7½	145
256	Wheal Trevenna	3½	4
256	Wheal Trewennan	—	10
128	Wheal Venland	12½	20
256	Wheal Victoria	2	6
127	Wheal Virgin	—	50*
1024	Wheal Walter	2½	5
256	Wheal Williams	2	12
	FOREIGN MINES.		
5000	Alten Mining Company	14½	1½
15000	Asturian Mining Co.	6	3
10000	Anglo-Mexican Co.	100	3
3374	Ditto Subscription	25	4
2000	Bolanos	150	4½
12000	Ditto Scrip	15	5
10000	Brazilian Imperial	20	4½
12000	Cobre Copper Co.	40	28
8500	Colombian Co. regis.	55	4½
5000	Ditto Scrip	—	
10000	Copiapo Mining Co	14	2
20000	General Mining Ass'n.	20	14
5051	Mexican Company	59	5
12000	Mocaubas & Cocaes	25	9
29320	Rl. del Monte, regis.	28½	3½
	Ditto unregistered		3½
	Ditto Red Debentures	—	19
	Ditto Black ditto	—	17
	Ditto Loan Notes	150	117
7000	Royal Santiago	10	16½
2000	Pachuca Mines	3	3½
11000	St. John del Rey	15	9½
43174	United Mexican	28½	4½

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, MAY 29, 1845.

	£	s.	£	s.	d.
IRON—Bar *a*..Wales..*ton*	8	0—	8	5	0
,, ..London	9	0—	9	5	0
Nail rods ,,	0	0—	10	0	0
Hoop (Staf.) ,,	11	0—	11	5	0
Sheet ,, ,,	0	0—	12	5	0
Bars ,, ,,	10	10—	11	0	0
Rails, average	9	5—	10	0	0
Welsh cold-blast foundry pig	4	5—	5	0	0
Scotch pig *b*, Clyde	3	7 6	3	10	0
Russian, CCND *c*	0	0—	16	0	0
,, PSI	0	0—	16	0	0
,, Gourieff	14	5—	14	10	0
,, Archangel	0	0—	13	12	6
Swedish *d*, on the spot	0	0—	11	10	0
,, Steel, fagt.	0	0—	15	5	0
,, ,, kegs *e*	14	5—	14	10	0
COPPER—Tile *f*	0	0—	92	0	0
Tough cake	0	0—	93	0	0
Best selected	0	0—	96	0	0

	£	s.	£	s.	d.
COPPER—Ordin. sheets, *lb.*	0	0—	0	0	10¼
,, bottoms	0	0—	0	0	11¼
TIN—Com. blocks *g*..*cwt.*	0	0—	4	7	0
,, bars	0	0—	4	8	6
Refined	0	0—	4	10	0
Straits *h*	0	0..	3	19	0
Banca	4	0—	4	2	0
TIN PLATES—Ch., IC *i*, *box*	1	10—	1	12	0
,, IX	1	16—	1	18	0
Coke, IC	0	0—	1	5	0
,, IX	0	0—	1	10	0
LEAD—Sheet *k* ......*ton*	19	5—	20	0	0
Pig, refined	0	0—	21	0	0
,, common	0	0—	19	0	0
,, Spanish, in bd.	0	0—	18	10	0
,, American	0	0—	—		
SPELTER—(Cake) *l*	0	0—	18	10	0
ZINC—(Sheet) *m* export.*	28	0—	30	0	0
QUICKSILVER *n* ......*lb.*	0	0—	0	4	6
REFINED METAL ....*ton*	0	0—	—		

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto. *e* In kegs ¼ and ½-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash. in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent. * For home use it is 32*l.* per ton.

[*From our Correspondent.*]

During the week the transactions in iron have been very limited. Staffordshire and Welsh maintain their prices, but Scotch pigs exhibit symptoms of a tendency to decline. Foreign tin has improved a little since the conditions of the coming sale of 60,000 slabs in Holland have transpired. Other metals are without material change.

[*Communicated by Messrs. Whitcomb and Barton, Old Broad-street.*]

The iron market generally continues very firm, at the quotations of last week's *Mining Journal.* Considerable sales have been made in Scotch pig iron during the week, at 70s. and 72s. 6d.—bill at four months. Holders are expecting higher prices. In other metals no alteration.

GLASGOW PIG-IRON TRADE.

MAY 22.—We have had a quiet week for this article, and the chief transactions have been made at slightly lower prices. We quote 67s. to 68s. for all No. 3; 69s. to 70s. for mixed Nos.; and 71s. to 72s. 6d. for all No. 1.—Cash, free on board.—*National.*

MAY 23.—The market has been quiet during the week, and several sales have been made at prices lower than last week—say, 67s. for all No. 3; 70s. for mixed Nos.; and 71s. to 72s. 6d. for all No. 1.—Cash, free on board. A few sales have been reported by the makers, about 70s. to 72s. 6d. for mixed No. 1, according to terms of payment.

CURRENT PRICE OF GOLD AND SILVER.

		£	s.	d.
Foreign gold in bars	per oz.	£3	17	9
,, ,, Portugal pieces		3	17	5
New dollars	per oz.	£0	4	9⅝
Silver in bars (Standard)		0	4	11

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—

Gold coin to Havre	110	ounces.
Ditto to Port Adelaide	3,054	,,
Silver coin to ditto	4,250	,,

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending May 23, was 18,683; amount of money, £77 16s. 11d.

WHEAL TRENANCE MINE, MULLION—(*From a Correspondent.*)—A very valuable discovery has been made here at the depth of seven feet from the surface, by cutting a lode two feet wide, eight inches of which is composed of rich grey red oxide, and malleable ores. An assay has been made, and the ore is found to be worth, at the present standard, 58*l.* 1s. 6d. per ton.

Arrangements are now nearly completed by which all the coals from the collieries of the Marquis of Londonderry, the Earl of Durham, and the Hetton Coal Company, will be brought into the London market without the agency of the London factors. Wharfs and depots will be established in different parts of London for the sale of these coals, upon a similar plan to that adopted by several other colliery owners.—*Durham Advertiser.*

DURHAM AND SUNDERLAND RAILWAY.—Within the last few days a branch railway, intended to be worked by locomotive power, has been completed between South Hetton Colliery and the Durham and Sunderland Railway, by means of which a large proportion of the *oversea coals*, worked at South Hetton and Murton Collieries, will be shipped at Sunderland, which must materially add to the revenue of the Durham and Sunderland Railway Company.

At the half-yearly meeting of the Monmouthshire Canal Navigation Company, on Wednesday last, a dividend of 5*l.* per share was declared, and it was resolved to petition in favour of the Monmouthshire Railway Bill.

The harvest which the leading counsel are now reaping before railway committees provokes the wrath of a correspondent, who says the leader against the North Kent received a fee of 2050*l.* as a retainer, besides all his other regular fees.

The Eastern Counties, not behind other folks in offering attractions to the holiday folks, tempts to go to Cambridge and back for 5s., and Colchester for 4s. 6d., during Whitsuntide. The opening of the Forest Gate, Cheshunt, and Rye House stations, on this line, is announced to be on 1st June.

RAILWAY TRAFFIC.—From our official returns it appears that the amount of traffic for the last week, on nearly 1800 miles of railway, was 143,877*l.*, thus accounted for:—79,602*l.* for the conveyance of passengers only, 35,413*l.* for the carriage of goods, and a remainder of 26,388*l.* for passengers and goods together, not respectively apportioned; the corresponding week of last year, being Witsun week, exceeded the present by 1943*l.*—*Railway Chronicle* of this day.

COPPER ORES.

Sampled May 13, and Sold at Pearce's Hotel, Truro, May 28, 1846.

Mines.	Tons.	Price.			Mines.	Tons.	Price.		
Consolidated	112	£9	6	6	Perran St. George	28	£6	10	6
ditto	99	5	6	0	ditto	25	6	3	6
ditto	87	4	18	6	Bolenna	50	2	5	0
ditto	74	6	17	6	ditto	35	7	4	0
ditto	72	5	8	6	Wh. Leisure	22	8	10	6
ditto	70	4	16	0	South Caradon	99	4	14	0
ditto	65	4	18	0	ditto	96	4	18	6
ditto	64	7	1	6	ditto	70	8	16	6
ditto	50	9	2	6	ditto	35	4	0	0
ditto	49	4	5	6	Par Consols	108	4	10	6
ditto	43	3	13	6	ditto	92	4	9	6
ditto	38	2	15	6	Grambler & St. Aub	73	6	1	6
ditto	28	5	14	6	ditto	57	5	17	6
United Mines	110	3	7	6	ditto	38	1	14	0
ditto	102	4	15	0	ditto	31	8	6	6
ditto	101	5	3	0	Treleigh Consols	99	3	14	6
ditto	98	4	17	0	ditto	80	10	6	6
ditto	94	6	4	6	Trethellan	72	5	3	6
ditto	74	3	9	0	ditto	54	2	13	0
ditto	67	3	15	0	ditto	47	2	1	0
ditto	57	4	11	0	Wheal Ellen	119	6	13	6
Tresavean	87	3	16	0	ditto	13	4	16	0
ditto	82	4	5	6	Treviskey	81	8	12	6
ditto	76	4	5	0	Barrier	65	5	5	0
ditto	72	2	17	0	Wh. Andrew	39	6	5	6
ditto	61	3	14	6	Nangiles	14	1	15	6
ditto	54	1	12	0	ditto	4	6	5	6
ditto	45	2	19	6	Wh. Comfort	25	7	10	6
ditto	35	4	4	0	ditto	21	2	11	0
ditto	22	1	10	0	William's E. D.	17	4	15	6
Perran St. George	51	4	1	6	Wh. Henry	4	4	10	6
ditto	47	1	11	6	Pengilly Mine	2	13	1	0
ditto	42	3	15	0					

TOTAL PRODUCE.

Consolidated	851	£5093	14	6	Trethellan	173	£612	1	0
United Mines	703	3202	5	0	Wh. Ellen	132	856	14	6
Tresavean	534	1836	17	0	Treviskey	81	698	12	6
Perran St. George. / Bolenna / Wh. Leisure	300	1328	9	6	Barrier	65	341	5	0
					Wh. Andrew & Nan.	57	294	13	6
					Wh. Comfort	46	211	13	6
South Caradon	300	1695	17	6	William's E. Downs.	17	81	3	6
Par Consols	200	900	8	6	Wh. Henry	4	18	2	0
Grambler & St. Aub.	199	1101	0	6	Pengilly Mine	2	26	2	0
Treleigh Consols	179	1194	15	6					

Average standard, 105*l.* 0s.—Average produce, 7½.—Average price per ton, 5*l.* 2s. 6d.—Quantity of ore, 3843 tons.—Quantity of fine copper, 286 tons 10 cwts.—Amount of money, 19,523*l.* 14s. 6d.—Average standard of last sale, 93*l.* 9s. 0d.—Average produce ditto, 9.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.		
Mines Royal	305	£1706	11	6
English Copper	293	1484	3	9
Vivian and Sons	886½	5503	2	3
Freeman and Co.	581	2024	13	6
Grenfell and Sons	653	3155	17	9
Sims, Willyams, and Co.	430	2212	16	0
Williams, Foster, and Co.	634½	3436	9	9
Total tons	3843	£19,523	14	6

Copper ores for sale on Thursday next, at Tyack's Hotel, Camborne.—Mines and Parcels.—Wheal Seton 790—Tincroft 522—Camborne Vean 500—East Wheal Crofty 481—South Wheal Basset 325—Fowey Consols 316—Dolcoath 275—Lanivet Consols 195—Godolphin 145—East Pool 120—Condurrow 103—Tretoil 51.—Total, 3823 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea Mines 518—Wheal Prosper 253—United Hills 223—Par Consols 220—Wheal Providence 193—Trenow Consols 192—Wheal Virgin 144—West Wheal Jewel 144—Wheal Trewavas 121—Wheal Busy 82—Wheal Brewer 80—Wheal Kayle 43—Wheal Rodney 41—Herland 10—Thomas's Ore 10—Wheal Treasury 9—Great Polgooth 7—Wheal Brook 4.—Total, 2294 tons.

COPPER ORES

Sampled May 6, and Sold at Swansea, May 27, 1846.

Mines.	Tons.	Prod.	Stand.	Price.			Mines.	Tons.	Prod.	Stand.	Price.		
Chili	100	19½	86½	£14	4	6	Berehaven	125	9¾	98½	£7	7	0
ditto	74	19	86¾	14	4	6	ditto	120	9¾	98¼	7	7	0
ditto	71	18¾	88½	14	5	6	ditto	100	9½	97¼	7	5	0
ditto	65	24⅝	83½	18	1	6	ditto	78	9½	98¼	7	5	0
ditto	45	28	84½	21	7	0	Knockmahon	88	10½	96	7	12	0
ditto	7	50½	81½	38	15	0	ditto	87	12	93¾	9	0	0
ditto	71	27	84½	20	10	6	ditto	80	12	95½	9	4	6
ditto	4	18½	86	13	13	6	ditto	70	5¾	110½	4	2	0
Cobre	80	21⅝	84	16	0	0	Ballymurtagh	70	4½	121½	2	18	0
ditto	76	21¾	84½	16	2	0	ditto	44	5⅝	112½	3	16	0
ditto	74	21½	84¾	15	15	0	ditto	19	6½	108¾	4	11	0
ditto	73	22	83½	16	2	6	Cuba	90	11⅞	91½	8	10	0
ditto	70	22	84¾	16	7	6	Llanidloes	13	14½	92½	11	2	6
ditto	50	22	83½	16	1	0	Nuevitas	6	19½	84½	14	5	6
							ditto	4	16½	85½	11	16	6

TOTAL PRODUCE.

Chili	437	£7407	10	6	Ballymurtagh	133	£456	13	0
Cobre	423	6794	19	6	a	90	765	0	0
Berehaven	423	3091	5	0	Llanidloes	13	144	12	6
Knockmahon	325	2476	16	0	Nuevitas	10	132	19	0

Total tons, 1854.—Total amount, £21,269 15s. 6d.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount		
English Copper Company	339	£4243	2	6
Freeman and Co.	99	1566	15	0
P. Grenfell and Sons	286	2913	15	6
Sims, Willyams, Nevill, Druce, and Co.	156	2206	18	6
Vivian and Sons	614	5481	2	0
Williams, Foster, and Co.	360	4858	2	0
Totals ...... tons	1854	£21,269	15	6

Copper Ores for Sale June 10.—Cobre 90, ditto 81, ditto 80, ditto 70, ditto 64, ditto 48, ditto 40, ditto 38, ditto 94, ditto 91, ditto 88, ditto 84, ditto 79, ditto 47, ditto 100, ditto 96, ditto 92, ditto 83.—Cuba 119, ditto 110, ditto 70.—Berehaven 104, ditto 96, ditto 90.—Cronebane 93, ditto 74, ditto 56, ditto 36, ditto 14, ditto 6.—Tigrony 40.—Cuba 80, ditto 72, ditto 69, ditto 57.—Copiapo 90, ditto 86, ditto 81.—Chili 90, ditto 84, ditto 82.—Knockmahon 105, ditto 104.—Ballymurtagh 77, ditto 26.—Llandidno 40, ditto 26, ditto 20.—South Molton 2.—Total, 3464.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Adair's Main 13 6—Davison's West Hartley 15 3—New Tanfield 14—North Percy Hartley 13 6—Original Tanfield 13—Old Pontop 13—Ord's Redheugh 13—Smith's Pontop 12 6—Tanfield Moor 15 6—Townley 14—West Wylam 14—Wylam 13 9—Eden Main 14 3—West Hartley Netherton 15—Wall's End Killingworth 13 6—Urpeth 13 6—Braddyll's Hetton 14 9 to 15—Hetton 15 6—Lambton 15—Shotton 15—Stewart's 15 6 to 15 9—Kelloe 14 9—Low Beachburn 12 6—Tees 15 6—West Cornforth 14 3.—Ships at market, 115; sold, 63; unsold, 52.

WEDNESDAY.—West Hartley 15—Tanfield Moor 15—Wall's End Heaton 13 6—Braddyll's Hetton 14 9—Haswell 15 6—Stewart's 15.—Ships, 191; sold, 79; unsold, 112.

FRIDAY.—Adair's Main 13 6—Buddle's West Hartley 14 3—Cragwood Hartley 12 6—Carr's Hartley 14 6—Chester Main 13—Dean's Frimrose 13 3—Hastings' Hartley 14 6—Original Tanfield 12 6—Old Pontop 13—Ord's Redheugh 13—Ravensworth's West Hartley 14 3—Stewart's Hartley 13 3—Tanfield Moor 15—West Wylam 14—Wylam 13 6—Wall's End Bell and Brown 13 6—Bewicke and Co. 13 6—Hebburn 13—Killingworth 13 3—Eden Main 13 6—Braddyll's Hetton 14 6—East Hetton 13 3—Haswell 15 6—Hetton 15—Lambton 14 6—North Hetton Lyons 13 6—Pemberton 13 3—Russell's Hetton 14 3—Shotton 14 6—Stewart's 15—Kelloe 14 6—Brown's Deanery 13 6—South Durham 13 3—Cowpen Hartley 14 6—Leasingthorne 13 6—Sidney's Hartley 14 6—South Durham Coke 24 6—Tonmawr 15 6—West Hartley Netherton 14 3.—Ships at market, 162.

NOTICES TO CORRESPONDENTS.

We shall next week publish a detailed description of Dr. Drake's Ignition Engine.

RAILWAY IMPROVEMENTS.—Mr. Motley's model can be inspected at our office.

"T. W. B." (St. Helen's).—Address a letter to the secretary, at the office, Moorgate-st.

MR. FREDERICK EDGELL.—It appears we were in error in announcing, last week, that the deceased had left a widow and infant child unprovided for. We are assured by Mr. H. F. Edgell, that his brother was a widower, and without a family. Our object was alone that of assisting those we deemed unfortunate and deserving, and can only regret finding ourselves called on to make this announcement.

The letter of "A Shareholder in the Blaenavon Iron and Coal Company" never came to hand, or it would have been, at least, noticed.

"W. R." (Cheapside).—We do not pretend to give advice to holders of shares in mines or railways, as to the disposal or retaining their interests. The best course to pursue, is the consulting some one of the many respectable sharebrokers—see our advertising columns.

THE MINING JOURNAL

And Atmospheric Railway Gazette.

LONDON, MAY 30, 1846.

A question, of vast importance to the shipping interest of the north, has recently occupied public attention, and the Mayor of Sunderland has lately had an interview with Sir R. PEEL on the subject—we allude to the competition of railways with shipping in the conveyance of coals to London, which is rapidly extending itself. The master mariners of the Tyne, naturally anxious for the welfare and preservation of their trade, have addressed a memorial to the Lords of the Treasury, in which the effect which the increasing carriage of coal by railway will have on the shipping, is clearly pointed out; it states, "That the high charges by the railways on passengers of 40, 50, and even 60 times the amount on goods, enable them to pay all their expenses of carriage and management from such charges, and to carry coal and merchandise at a merely nominal rate, which counts to them as profit, thereby reducing, at the public cost, the employment of your petitioners, which will evidently eventually be destroyed, and your petitioners will be obliged to seek employment in foreign countries; that the discouragement and difficulty under which British seamen have long laboured, and which are daily increasing, have already obliged a number of them to quit the service for that of foreign countries. Your petitioners feel it to be their duty to address your lordships on this important subject, before it be too late, and entreating your lordships not to sacrifice the employment of 50,000 seamen to injustice, which may eventually bring with it dangers at which the boldest may tremble." We have now before us a pamphlet, entitled *Ships and Railways*, in which the author shows that already 10,000 of such sailors engaged in the coal trade, it has been deliberately proposed at once to discharge, and supersede by engine drivers and stokers, and which, if the same system be pursued, will be succeeded by the destruction of the entire coasting trade of the north, employing from 45,000 to 50,000 seamen. Operations are already being commenced for this revolution of trade; yet, it appears, the shipping interest does not so much apprehend competition with the great northern collieries as those being opened in Derbyshire and the midland counties, which, it will be seen from some extracts from the pamphlet, given in another column, range from 100 to 150 miles to London, while those of Lancashire are 190, and of Newcastle 270 miles, and the qualities of which coal are but little inferior to that of the northern field. On some of the great lines of railway coals are carried at 1½d. per ton per mile, others at 1d., on some ⅝d., ½d., and even as low as ¼d. per ton per mile; while the average expense to ships from the Tyne to London is 5s. 7d. to 5s. 8d. per ton—7s. to 7s. 6d. per ton pays expenses and interest of capital, in addition to which there is 2s. 7½d. per ton for lighterage, &c., making a considerable difference in favour of carriage by railway, particularly from the midland coal districts. On an average, the Durham and Northumberland coal costs, at the pit's mouth, from 4s. 9d. to 5s.; while Lancashire, Staffordshire, Yorkshire, Derbyshire, and a portion of the South Wales, can be obtained at an expense of from 3s. to 3s. 6d. per ton; it thus appearing, that not only will the northern coal trade to London by ships be destroyed, but even the northern trade itself, a point further than was at first calculated on. The author then proceeds to make some startling announcements; he observes—"A single body of directors, as that of the North Midland Line, could shut up the communication between the north and south parts of the kingdom at any hour, did not Parliament restrain them, or by a little higher charge on passengers, and a little less on goods and minerals, *at once* put an end to the whole coasting trade of the country; do in a day what they are doing more gradually, if the power of Parliament was not sufficient to restrict them: possessing the monopoly of all the metropolitan carriage, the directors at a sitting, their interests impelling them, might place London under a restricted supply." To the select committee on railway legislation, appointed in March last, the general question of all railways must come; and the writer remarks, if it investigate thoroughly, take a full and comprehensive view of the subject, and report wisely, we shall have a satisfactory solution; if not, the great teachers, time and events, will bring it home to the business and bosom of every man in the empire; and when the results stand unfolded clearly and fully, it will then be discovered, when too late, the fatal policy that has been adopted. As a proof of the vast importance this question bears to shipping, it may be stated, that in 1844 there were 2,326,382 tons of coal sent from the northern coal field to London, employing 9568 seamen; and the coasting trade in coals to all the ports of the British Islands was 7,376,862 tons, employing 31,000 seamen, or seven-ninths of all the coasting trade. It is said, Sir R. PEEL is desirous to make himself thoroughly acquainted with all the facts bearing on this important question, and, we doubt not, any legislation on the subject, which may be considered necessary, will be guided by that liberal policy, which, while the coasting trade is protected, it will bear justly on that new and important class of property, developed in the last few years—namely, railways.

A meeting of the proprietors in CAMERON's Coalbrook Steam Coal and Swansea and Loughor Railway Company was held, pursuant to the resolutions of the House of Commons, on Monday last,—and affords additional evidence of the imperfection of legislative measures, in laying down a rule which equally applies to the *bona fide* schemes, and those which, when even projected, were felt by the very parties themselves sure of being abortive—the only, or main object being, to raise a sum by way of deposit, to create an artificial premium, to find the funds for paying lawyers' exorbitant demands and engineers' trifling expenses, and to have a sufficient balance to pay the cost of winding up, after an unsuccessful attempt to carry the bill through the House; while, in most cases, the parties were perfectly unprepared to attempt even complying with the Standing Orders. We have been induced thus to advert to the generality of schemes, inasmuch as we cannot but feel, in a case like the present, that the delay so foolishly, so wantonly, occasioned in carrying out proposed lines of railway, where the object set forth is highly calculated, not only to be of benefit to those with whom the measure originated, but also the community at large—has a most unjust and injurious effect. We merely cite the present instance as evidence of the disadvantages attendant this Parliamentary decree,—while we believe that, in most instances, it has been held as a failure, whether from management on the part of the few, or mismanagement on the part of the many. It appears that the line under notice is intended to form an immediate communication between the collieries possessed by the company (consisting of 1300 acres), and

the port of Swansea, whereby a saving will be effected of at least 12,500*l.* per annum, on the output of the colliery belonging to the company, not to advert to other properties, the estimated returns on the capital so employed being set down at from 25 to 30 per cent. We may here observe, that the present rate of haulage is from 2s. 6d. to 3s. per ton now, taking the distance at 6½ miles, with a charge of 1d. per ton per mile, it will be manifest that a saving of 2s. to 2s. 6d. per ton would be effected. The assumed quantity of coal which will be raised from the collieries is set out at 125,000 tons per annum, or 2500 tons per week, which, however large it may appear, yet (if our information be correct) is far below the estimate of those most sanguine, and which, moreover, may be fairly calculated upon, from its use becoming general for purposes of steam navigation, the application to which can hardly be said to have a limit. Assuming then this quantity to be annually transported to Swansea, we should here have a saving effected of no less than 12,500*l.* per annum, while facilities would be afforded for the working of the beds of ironstone, and also the limestone with which the sett is known to abound The coal already discovered is said to be 20 feet in thickness, six beds or seams, with a declination of about one in six—the quantity opened being estimated at 20,000,000 tons, an extent of 300 or 400 acres being ready for immediate work, yielding 6000 tons per acre. It is not our object, however, to enter into the merits held forth by the promoters of the undertaking, but we are led to direct attention to the fact, that at the meeting held on Monday last, representing shares to an extent far beyond the number required by Parliament, the shareholders unanimously declared their willingness to prosecute the undertaking—and, in the absence of any dissentient vote, we cannot but think, the measure having moreover passed the Standing Orders, and we believe read a second time in the House of Commons, that it is hard the proprietors should be unnecessarily delayed in the prosecution of the project, and that the best season of the year should thus be allowed to pass by. The remark equally applies to other schemes, but this being more immediately under our notice, we refer to it as one in point.

In another part of this day's Journal will be found a letter on the vast riches which are being developed in the Copper Region of Lake Superior; and, although some of the statements of masses of pure metal (copper) being discovered, appear past belief, they are, in some measure, verified by the general information, and the fact, as we are credibly assured, that a mass of 4000 lbs. weight has been deposited in the National Museum, Washington. A few months working on such deposits of mineral and native copper, as we are led to believe is the case in the neighbourhood of the Lake, would suffice not only to raise splendid fortunes, but to inundate the American market with the produce. Nor is the reward of the miners' enterprise and perseverance confined to copper—it will be seen, from the document referred to, that particles of native silver have been found at Copper Falls Location, as large as hen's eggs, and, from the manner in which each district is particularly described, the name of the locality, and the owners names, we have no right to assume that the whole statement is unworthy of credit. If true to the full extent, it will, certainly, render America, as a copper producing country, superior to any in the world.

In another column will be found a report of the proceedings of the Callington Mining Company, held yesterday,—and we heartily congratulate the shareholders on having at last arrived at a point which, we hope, will terminate the bickerings and unpleasant proceedings, which have attended the meetings lately held. The proposed alterations or amendments in the rules and regulations, proposed by the committee appointed to investigate generally the affairs of the company,—and, moreover, to discuss the same with the directors, and which were sanctioned at the last general meeting—have now been confirmed; and henceforth we trust that harmony will reign, and that one feeling and desire actuate the entire body of proprietors—that of the advancement of the general interest. The proceedings are given so fully, that we deem it unnecessary to add more to the expression of our wishes, except the recommendation we would earnestly make, whatever may be the changes, if any take place in the direction, that such should be effected without delay. A strong lesson has been inculcated, and, we doubt not, it will have its due effect. We hope also, that on future occasions, the chairman, if the same should preside, will, while he exclaims that his position provents him taking part in the discussion, allow the members present to express their opinions without interference, and that he will consider it their province to determine questions, and not that of the chairman, whose office it is to submit them to the decision of the meeting. There is a wide difference between a dictator and a chairman at a public meeting, and of this we think the gentleman to whom we refer ought to be fully sensible, by this time at least, while we think it would be more consonant with good taste, if he allowed practical and scientific men to explain for themselves, without rendering himself the organ of communication and explanation.

We have, on various occasions, in the MINING JOURNAL, alluded to the capabilities of Bantry Bay and Valentia, as harbours, or packet stations—indeed, were the first to point out their superiority—and we are fully borne out in the view we have taken, by a letter just published from the Knight of KERRY to the Earl of ELLENBOROUGH, on the information that the Admiralty, in choosing a packet station for Ireland, had preferred Cork to either of the before-mentioned places. He shows that Cork is a great commercial port, with a beautiful and picturesque harbour, most favourably circumstanced for intercourse with England; that it may also be considered as one of the *tetes du pont*, which, by means of steam, in a military sense, connect Ireland with England; but that it should be deemed the most favourable position for intercourse with the *westward* (America, for instance) would seem contrary to all geographical knowledge, as well as in conflict with the best authorities, military and naval. It would be preposterous to suppose that passengers would cross from England to Dublin, and thence, by a land journey of 120 miles, to Cork, in order to be exposed to a coasting passage of 70 miles, of the most dangerous character. It could only have been on his lordship's supposition, that the west of Ireland is destitute of harbours for packet stations. The Knight then enumerates the estuaries of Galway and the Shannon, Killibegs, Roundstone, Kilrush, Valentia, Kilmacalogue, and Berehaven, as a refutation to such an unfounded idea. CROMWELL established a station at Valentia for frigates and troops, and expelled the Spaniards therefrom. In 1824, a plan was submitted to Government for the transmission of mails and troops to Halifax, and approved by the Duke of YORK, Lord LIVERPOOL, &c. Mr. M'GREGOR, in his able work on America, also recommends it; a commission of revenue inquiry in 1830; Mr. CORDEN; in his remarkable pamphlet, *England, Ireland, and America*; Mr. CHARLES WYE WILLIAMS; Sir R. OTWAY; Messrs. NIMMO, CUBITT, and VIGNOLLES, civil engineers; M. CHEVALIER, in his work on French statistics; and numerous other authorities—men of science and practical knowledge—have all given testimony in favour of Valentia, particularly as a harbour and packet station.

The Knight concludes his interesting remarks, by expressing the wish, that a military and naval examination of the question—whether Valentia does not possess the means of being easily and effectually fortified against any attack, with ample anchorage for a squadron, which could not be molested; and a military position on the island, commanding at once the harbour and the opposite coast, and unattackable by an enemy, either externally or internally; and trusting that he may receive what the Earl of ELLENBOROUGH's predecessor promised—viz.: "fair play and justice for Ireland." The great Skellig is one of the most remarkable objects in the ocean, rising 800 feet above the level of the sea, in 34 fathoms water—one of the best points for observation on the western coast; and the writer considers it not extravagant to expect from the improvements in the electric telegraph, that from this point, 10½ deg. west of Greenwich and 2 deg. nearer to America than Cork, information may, at a future time, be conveyed to the Admiralty in a few minutes.

The opinion expressed by the Judges in the case BARNETT *v.* LAMBERT, Bart., in the Court of Exchequer, on a motion for a new trial, which was in the end refused, leads us to place before our readers the main features of the case, and the observations made on the part of the court, as such appears to us to be most clear and explicit, and should, we think, preclude the further litigation and useless expenses attendant on questions—such as presented in the instance before us—the decision, as we have already observed, being most conclusive. It appears that, at the last sittings at Guildhall, the cause under notice was tried, when a verdict was given in favour of the plaintiff—the action being for the recovery of a certain sum for stationery supplied to the Great Welsh Junction Railway Company, of which the defendant was a member of the provisional committee. At the trial so held, it appeared, that the defendant was advertised as a member of the provisional committee in August last, and that, in the month of October, he presided at a meeting of the scripholders, whereby, according to the dictum of the LORD CHIEF BARON, he had held himself out as one immediately connected with the company—and thus rendered himself liable for debts contracted, subsequent to his nomination or acceptance of office. A verdict was accordingly given for the plaintiff. On the occasion under immediate notice, it was contended that the ruling of his lordship was incorrect, and that the defendant was entitled to a new trial, or, at all events, to limit the damages to the period, after *he* intimated to the public his connection with the company by presiding at a meeting; and, moreover, it was attempted to be set up, that the company was in itself a *peculiar* association of parties united together for certain specific objects, and whatever goods might be required in the prosecution of such object, the only authority given to the secretary—by whom it appears the orders were given—was simply to *buy*, and not to pledge the credit of the members of the committee. The court, we, however, find, despite the special pleading of counsel, was of opinion that the verdict was a correct one, and that the ruling of the learned CHIEF BARON was well applied to the facts. It was, indeed, laid down that, in cases in which the committees of directors exceeded their authority by commencing operations before the full sum was subscribed, on the possession of which alone they professed to act—it had been held that the shareholders were not liable, for they had not given any authority, express or implied, to the directors to pledge their names by ordering goods until an event, which had not occurred. So also, where money was subscribed wherewith to carry on operations, there was no power conferred to deal on credit; but where parties agree to carry out an object, and do not pay anything at all, and they know that goods must be bought in order to commence operations, they must be held to have sanctioned the purchase of such goods on credit. We think it unnecessary to add one word more to the decision of the court, which is too plain to be misunderstood.

PRICE OF IRON IN FRANCE.—The last accounts from St. Dizier state, that the iron trade is still very langnid, although a few trifling sales have been entered into. The price of wrought or beaten iron still maintains its price at 15*l.* 5s. per 1000 kilos, or 2000 lbs., delivered at St. Dizier,—but the greater part of the forges are without samples. There is also very little white cast metal in the market, and the sales that are made are at a long date. The nominal price is 7*l.* 10s. the 2000 lbs., delivered at St. Dizier,—but those who hold any stock on hand demand 7*l.* 12s., but purchasers are very reluctant to make bargains at that price. Flattened iron is in good demand, and is disposed of at 14*l.* 16s., but little in the market.

SALE OF COAL MINES IN BELGIUM.—It appears that the coal mines of Buisson, lately belonging to Messrs. Rainbaux and Lareps, have been sold, and realised a very high price. The coal mine of Boussu is also on the point of being sold, it is expected, for several million francs. It is stated, that there is a great scarcity of hands in the collieries of the Sambre, and the daily pay of the pitmen has been raised from 2s. 6d. to 3s; and, even at that price, the directors of the mine cannot obtain the number of workmen they require for working the pits. It is not so, however, in the basin of Mons—the sale being moderate, and they having a large stock on hand. This difference arises, that there are no metallurgic establishments, forges, furnaces, &c., in the environs of Mons; whilst the iron manufacturers in the vicinity of Charleroi, particularly the high furnaces, absorb a great portion daily of the coal extracted.

THE COAL MINES OF ST. ETIENNE.—The last accounts from St. Etienne state, that the colliers, or pitmen, have all returned to work, and all the mines are in full activity; so that there is very little fear of another outbreak, as an understanding has been come to between the masters and men. M. Feneon, engineer of mines, who was appointed by the Minister as assistant to Messrs. Hypolete, Royet, and De Rochetaille, the commissioners, who had been delegated to the municipal council, to investigate the coal question and cause of outbreak of that city, has returned to Paris, satisfied that his services are no longer required in that quarter, as the men appear all well disposed to work, to support their families, now the panic of the combination of the coal proprietors has subsided; and they feel satisfied, that no attempt will be made on their part to reduce their wages, or increase their hours of labour. This tranquility has caused general satisfaction throughout the district, as most serious consequences were feared would result to the ironmasters had it continued.

THE ELECTRIC TELEGRAPH IN AMERICA.—Prof. Morse's system of telegraphic communication appears to be a wonderful improvement on that adopted in this country: the former, besides all the advantages of the latter, absolutely *registering its communications*—so that, after sending a message, you may call and ascertain the answer at your convenience. The difference in the expense, too, is immense—the English being about 200*l.* per mile, while the American is only 20*l.* There is now about 2000 miles of telegraphic communication nearly completed in the United States: and, from its benefits becoming so obvious, as a necessary consequence its application is constantly vastly extending.

GOLD MINES OF RUSSIA.—On Saturday the *Magnet* steamer arrived in the river from St. Petersburgh, with gold to the value of between 400,000*l.* and 500,000*l.*, on account of the Russian Government—a large portion of which, it is said, has been remitted for the payment of dividends due in September next. A large remittance of gold, we understand, has also arrived from Russia at Hamburgh. This gold is a portion of the annual produce of the Russian mines and washings, which for some years have been rapidly increasing. These supplies are derived from the washings in Siberia, and in the Oural Mountains, and a considerable quantity has been obtained from the silver produced in the mines of Kolyvan. The produce of the Siberian washings in 1830 was rather under *six* poods of 36 lbs. each, or 216 lbs.; but it gradually increased until in 1842 it amounted to no less than 631 poods. In that year, in addition to that produce from the washings in Siberia, the washings of the Oural Mountains produced 310 poods, and the mines of Kolyvan 30 poods, making, in all, a total produce of gold in Russia for one year of 971 poods, being equal to 35,030 lbs. avoirdupois, or 42,571 lbs. troy. This gold, at our standard price of 46*l.* 14s. 6d. per lb., was equivalent to the large sum of 1,989,128*l.* 11s. But beyond this, it is stated generally, that as the Government impose a duty of from 20 to 25 per cent. on the produce of private individuals, a considerable quantity of gold is produced, which does not appear in the official accounts from which these statements are furnished. The whole value of the gold washings and mines of Russia in 1842, making allowance for smuggling, was estimated at about 2,300,000*l.* The produce of 1843 is estimated in the same way to have increased to 3,300,000*l.* For the last two years we have seen no estimate of the quantity made. This subject begins to excite the greatest interest, as having a tendency permanently to alter the value of our standard metal, by lowering its intrinsic value in relation to silver and commodities generally.

COATING IRON AND ZINC WITH COPPER, WITHOUT CYANURET OF POTASSIUM.—The great advantages which would arise from the perfecting a plan, whereby the easily oxidisable metals, such as iron and zinc, could be coated with copper at a cheap rate, induced Messrs. Elsner and Philip, of Berlin, to undertake a series of experiments, to ascertain if such could not be effected more economically than by employing the cyanuret of potassium, and in which they have been successful. For coating iron the article must be well cleaned in rain or soft water, and rubbed, before immersing it in the solution, which may be either chloride of potassium, chloride of sodium, with a little caustic ammonia added, or tartrate of potash, with a small portion of carbonate of potash. At the extremity of the wire in connection with the copper, or negative pole of the battery, is fixed a thin flattened copper plate, and the article to be coated is attached to the wire from the zinc, or positive pole, and both are then immersed in the exciting solution, the copper plate only partially. The liquid should be kept at a temperature of from 15° to 20° centigrade, and the success of the operation depends greatly on the strength and uniformity of the galvanic current. When the chlorides are employed, the coating is of a dark natural copper colour; and with tartrate of potash, it assumes a red tinge, similar to the red oxide of copper: when sufficiently covered, the article is rubbed in saw-dust, and exposed to a current of warm air to dry,—when they will take a fine polish, and resist all atmospheric influence. In coating zinc with copper, the same general principles will apply as for iron—only observing that, in proportion to the size of the article, the galvanic current must be less powerful for zinc. The surfaces must be perfectly smooth, and for this reason it is well to rub them thoroughly with fine sand, and polish with a brush. Tartrate of potash is the best existing liquid for coating zinc. By very simple means, large articles in iron and zinc may be coated with copper by the above cheap chemical solutions, which could not, at any former period, be effected from the high price of the cyanuret of potassium.

SALT MINES IN ALGERIA.—M. Henry Fournel, Engineer-in-Chief of Mines, has addressed from Bona a report to the Academy of Sciences, in Paris, on the beds of muriate of soda, in Algeria. It appears that muriate of soda is abundant, and spread all over the soil of Algeria. By looking over a map of the country, to feel convinced of the fact, it will be seen that there are numerous streams designated under the name of Oued Melah (salt stream) of Chott or Sebkra, which are, properly speaking, nothing but a series of lakes or salt ponds of considerable extent; and add to these salt waters, the presence of immense banks of rock salt, which is obtained at a few metres from the surface, and the existence of actual mountains of salt, which rise at a great height above the plains, it will be seen that the mere profusion is applicable to produce abundant of muriate of soda in Algeria. The memoir in question contains a very full description of the beds of salt discovered by M. Fournal. The author particularly alludes to the lakes and streams, the saline degree of which is high enough to allow the natives to work it: he reviews on that point successfully the three provinces, running from east to west.

IRON MINES IN ALGERIA.—Late accounts from Algeria announce that, in consequence of recent explorations made in the district of Edough, they have led to the discovery of new metallurgic riches. They have found mountains of pure iron ore, and the beds are so numerous and abundant, that it is a question whether the 200,000 hectares of forest wood, which the authorities of this sub-division possess, will be sufficient fuel to work them, when they begin to carry on operations on a large scale for blasting and melting of ore. Mining enterprise is now chiefly directed to Algeria, by the numerous adventurers who are leaving France, under the expectation of soon reaping an ample fortune. Some valuable iron mines have been discovered in various parts, and there is very little doubt that ore exists to a great extent; but the scarcity and dearness of fuel, coal, wood, and charcoal, will be for a time a great drawback to the working of them to advantage, although the Government gives every facility.

GEOLOGY OF NEW SOUTH WALES, NEW HOLLAND, AND VAN DIEMAN'S LAND.—The stratified rocks of New South Wales and New Holland, from the mica slate upward, reach only to the variegated sandstone, which rock rests on the coal deposits. The whole thickness does not exceed 2200 ft., of which 1400 ft. consist of sandstone alone. The crystal line and sedimentary rocks of New South Wales bear to one another the proportion of 3 to 1, and the former include granite, protogen, quartz rock, syenite, eurite, porphyry, greenstone, and basalt. The coal of New Holland is bituminous, and constitutes a series of beds 2 to 5 ft. thick, alternating with sandstone, and a soft clayey shale. The principal deposits are those of the Hunter River Valley, which is worked at New Castle, at the mouth of the river, and that of the district of Illawarra. Numerous fossil plants are found with the coal, among which the Glossopteris Browniana is by far the most prevalent form. Below the coal lie deposits of sandstone and limestones, which often abound in fossils.

THE RAILWAY INTEREST.—By a Parliamentary report, which has just been issued, it appears that the railways now before Parliament, and far advanced in their several stages, represent a capital of no less than 71,046,325*l.*, besides authorising the further sum of 19,395,162*l.* to be borrowed—making so far a total of 80,441,487*l.*

"THE RAILWAY KING."—Mr. Hudson, M.P., who has been so styled, in consequence of the immense interest he holds in railway undertakings, and the successful results attending his system of management, stated, before the committee on the York Railways, that he was chairman of the Berwick and Newcastle, the Newcastle and Darlington, the Great North of England from Darlington to York, the York and North Midland from York to Normanton, the Midlands from Normanton to Rugby, the branch from Rugby to Derby, the Birmingham and Gloucester, the Gloucester and Bristol, the Leeds and Bradford, and the Eastern Counties Companies, as well as of several branches from the Midlands to Hull and elsewhere. These companies represented a capital of between 50,000,000*l.* and 60,000,000*l.* sterling. That was the extent of his dominions!

CORNWALL RAILWAY—HOUSE OF COMMONS.

The evidence in the case of the Cornwall Railway was resumed on Monday—when the traffic evidence was opened by the examination of Mr. THEOPHILUS MITCHELL, merchant, of St. Austell, who deposed to the great accommodation the line would give in a mining, agricultural, and commercial point of view.

Mr. JAMES DREW, magistrate and general merchant, at Lostwithiel, corroborated the evidence of last witness. He obtained his goods from Plymouth, London, and Bristol. It would be of great advantage to him if the line under consideration was made, and would effect a saving of 11s. 6d. in the carriage of a cask of spirits: the witness also stated, that there was a very considerable iron mine in the neighbourhood of Lostwithiel.

Mr. SAMUEL ELLIOT, wholesale grocer, chemist, and druggist, at Liskeard, said—there were rather more than 30 copper mines in that district. The value of the mines, as property, was between 300,000*l.* and 400,000*l.* There was a large traffic between Plymouth and Liskeard, the average cost at present between Liskeard and Plymouth, for a ton of goods, was 1*l.*: the town of Liskeard was altogether in favour of the railway.

Mr. T. WERE FOX, merchant, Plymouth, and Mr. MICHAEL WILLIAMS, the extensive miner and copper smelter, in various parts of Cornwall and Wales, corroborated the evidence already given as to traffic, and were of opinion, that the line was very much required by the wants of the district, and was by far the best proposed to be laid down for its accommodation.

On Tuesday, Mr. PEARSE, manager of the Hamoaze-bridge, said it crossed the water in six or seven minutes, carriages were driven on at one end without unharnessing the horses, and off at the other; 16 military waggons had passed over at once. On one occasion, three elephants and a rhinoceras in carriages, each drawn by six horses, crossed without difficulty; it was 310 tons burden, and had frequently carried 210 tons; the beach at low water was 40 yards broad, and the incline 1 in 10; the ships passing up and down Hamoaze did not much interfere; it had sometimes, but rarely, been fouled by vessels; the chains which worked it were 380 fms. long, and they had not broke 12 times in the 12 years.

Mr. BRUNEL, C. E., was next examined, he said, from the roughness of the country steep gradients must be made—the steepest was 1 in 60, and could be easily worked. If the Admiralty objected to the trains passing on the steam-bridge, another could be easily constructed; the trains would run down an incline on to the bridge, and the getting them off was a merely mechanical arrangement.—The Earl of ST. GERMAINS, confirmed the evidence given in favour of the bridge.

On Thursday, Mr. VIGNOLES, C. E., confirmed in the main the engineering evidence of Mr. Brunel in favour of the line.

Mr. HAWKSHAW, C. E., gave evidence very strongly in favour of the line, stating that both the curves and gradients had been greatly improved since the rejection of the bill last year.

On Friday, the witnesses examined were Sir W. Trelawney, Mr. Pendarves, M.P., Mr. Willyams (the banker), and Captains Sullivan and Truscott, who appeared on behalf of the corporation of Saltash, as conservators of the Tamar—the corporation of Bodmin, and others.—The committee adjourned to Monday, the 8th of June.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

The *Journal des Debats* of this morning has a long article on the new Belgian coal mine company of M. de Rothschild. Your great contemporary gives all the details, which appeared in the *Mining Journal* last week; and declares that the company cannot fail to make most profitable affairs, considering the immense demand which exists for coal for railways and gas works. The company has chosen mines, which are admirably situated in connection with the Great Northern Railway of France, whereby it will be enabled to have all the advantages of prompt and economical conveyance. Its mines, too, produce precisely those sorts of coal which are required for the fabrication of coke for railways and for gas works—the product of the mines of l'Agrappe and Groscuil possessing the former qualities, that of l'Escouffiaria the latter. One of its directors possesses, it is said, a secret for manufacturing coke immensely cheaper than by the present system, and he brings the invention to the company for nothing. The article of the *Débats* is a puff direct of the company. It was, however, not called for; for the Bourse people have taken the enterprise into favour, and have already pushed its shares to a high premium—the quotation yesterday having been at one time 650 fr.

It appears that the Minister of Marine requires, that the machines for the six new iron steamers, of which the hulls were contracted for lately (*vide Mining Journal* of last week but one), shall not exceed in weight 600 kil. per horse power. The *Constitutionnel* declares, that this will be most onerous to the machine makers of France; and it even fears that it may render necessary the command of the machinery from England. It may be easy, adds the *Constitutionnel*, for Mr. Penn, the first engine constructor of England, to build machines of such light weight; but he could only effect it after long experience and great perseverance, and to exact the same thing at present of French engine builders is exorbitant.

The newspapers publish reports of the annual meeting of the Company des Houilleres et Fonderies de l' Aveyron. It appears that the company was originally founded in 1826, with a capital of 1,800,000 fr., which was advanced to 3,600,000 fr. in 1829, and to 7,200,000 fr. in 1832, divided into 2400 shares, among 215 persons. For 15 years the shareholders did not receive a single farthing, the interest due being added to the capital. In consequence, after further adding sundry repayments, the real capital is 13,900,000 fr. For 1845, a dividend of 360 fr. per share was declared. The company has six furnaces in operation, a seventh in construction, and is about to begin working three others, abandoned sometime ago. In 1845 15,000 tons of iron were manufactured, of which not less than 13,000 tons were destined for rails for the railways. Three thousand workmen are employed by the company, and Decazeville, which in 1826 had no inhabitant, is now the second town in importance in the department, and has a population of 5000. The report read to the shareholders insisted that the future prospects of the company are most brilliant. They had need to be, for 15 years without interest is not agreeable.

Owing to the increased attention which is now paid to mining enterprise in this city, the *Journal des Chemins de Fer* publishes details of the Zinc Company de la Grande Montagne. They are to the effect, that the company was authorised by royal ordinance, the 22d April, 1846: that the duration of the company is fixed at 40 years, with power of prolongation; that its head quarters are Liege, with a branch office at Paris, Rue Laffitte, 8; that its objects are the working of the mines of zinc and coal on the banks of the Meuse, 22 kil. from Liege; that the concession of zinc is between that of Corfali, and that of the Nouvelle Montagne, and of coal in juxta-position thereto, in such manner that the zinc and the coal are obtained from the mine by the same gallery; that the Meuse and the route royale afford excellent means of communication; and that the Liege and Namur Railway traverses the concession.

It appears that the high duties on the importation of iron imposed by the Zollverein has caused a large increase in the fabrication.

As the session is so near its termination, it may be assumed that nothing will be heard of the expected reduction of the duties on iron destined for shipbuilding. Did the Minister of Commerce always intend that such should be the lame and impotent conclusion of the long and anxious debates of the Councils-General of Agriculture and Commerce? If so, why did he give them the trouble of assembling? If ever the necessity of the reduction or abolition of an impost was made out in this world, it was that of the persons interested in the merchant marine, in favour of the reduction of the iron duties; for they showed triumphantly and unanswerably, that for years past, year after year, the merchant marine has declined—that it is not now far from utter annihilation—and that the only means of saving it, is to enable it to build vessels of iron—and that, for that purpose, the admission of foreign iron is absolutely necessary, the ironmasters of France being unable to supply it. The shipbuilding trade had confidently calculated on this concession, and had (if I mistake not) the express promise of the Minister of Commerce, that it should be made. Unfortunately, the Minister is a slow coachman—a kind-hearted, well-meaning, intelligent man, but without energy—without the slightest decision of character. In all probability, he has allowed himself to be wheedled and coaxed by the ironmasters, and he has preferred to let the merchant marine go to rack and ruin, rather than deprive them of the slightest degree of their beloved protection. If such be the case, he has assumed a fearful degree of responsibility, for which he will certainly be called to account one day or another. And as to the ironmasters, their grasping selfishness will tell greatly against them in the long run,—for it will create intense disgust at their abominable monopoly. In this instance, they have been like the dog in the manger—they cannot themselves supply the shipowners with the iron they need, and yet they will not allow them to obtain it at any other market where it can be procured.

MANUFACTURE OF IRON IN STYRIA.—The province of Styria is the central point of the iron mines of Austria, where the mountain of Erzberg displays its magnificent summits 4800 feet above the level of the sea, and contains the richest iron mines in the empire. At the foot of this mountain, and the meridional slope, is the town of Vordenberg (four miles from the State railway), where there are fourteen large foundries, which, by the exertions of the Archduke John (who is the great patroniser of mineral industry in Styria), have united themselves as one co-operating firm, which has already proved so highly beneficial to the foundries, now able to furnish nearly all the rails required for the works of that country.

ON THE CLEANING OF THE WIRE CYLINDER OF THE SAFETY LAMP.—The ordinary method of cleaning the wire cylinder of the safety lamp, by heating it over the flame of burning shavings, is capable of much improvement,—as by this process it is found to become brittle, and consequently to impair the safety of using it. The coal dust, which contains more or less sulphur, combines with the oil and forms a tough mass, which hitherto has been taken off by the above way; but the wire becomes red hot, and readily combines with the sulphur of the coal dust, and consequently becomes brittle and unsafe: in mines where there is much sulphur this is found a great inconvenience, and the cylinders must be renewed from time to time, if it is wished that they should retain the quality which their name implies. In the *Bulletin du Musseé l' Industrie*, it is proposed to clean the wire cylinders by washing them in a boiling solution of soda, which it effects fully, soap being formed by the combination of the oil and alkali. In *Karsten's Archives of Mineralogy and Mines*, the cleaning with soda is very strongly recommended, and the experience of several miners given, among which we may relate the following:—At the Gonley mines, in the district of Worms, the carbonate of soda of commerce is used, which contains 80 per cent. of soda; this, to be rendered caustic, requires an addition of unslacked lime. The soda is dissolved in water, in the proportion of one to 10, and one part of unslacked lime is added to four parts of soda; the whole is then raised to a boiling heat, the wire cylinder to be cleaned is left in the boiling solution about six minutes; in this short time the oil has fully combined with the soda, and the soap formed combined with the dirt, after which follows the brushing, rinsing, and drying. At the Gonley mines, 40 or 50 of these cylinders are placed at once in the solution,—and at the same mines, daily, from 80 to 90 cylinders washed at the cost per week of 10 to 15 cents. The same liquid can be used for a length of time by the proper addition of water, soda, and lime, especially if the undissolved precipitate is removed; or, better, if a filtered solution is used. In the mining circle of Laurbruck, soda of commerce contains from 90 to 95 per cent. of soda. The solution is made of one part soda to eight of water, otherwise one proceeds as at the Gonley mines. It is to be hoped, that from the simplicity and cheapness of the process, it may be introduced at those mines in this country which may be under the disagreeable necessity of using the safety lamp.—*T. F. Moss, M.E.: Journ. of Franklin Inst.*

METALLURGICAL TREATMENT OF LEAD ORES.—No. III.

The second and third doors are open only during the stirring; the first is always open, so that the state of the furnace may be readily ascertained. When the basin of the furnace is sufficiently full, which generally happens at the end of nine hours, the first running of metal is made by removing the clay plug, with which the hole was stopped—the red hot lead then rushes into a basin appropriated for it. The aperture from which the lead has run is then stopped by a plug of wood, which is covered externally with a coating of clay, and is forced home by repeated blows from the rounded end of a poker. The bath of lead is then covered with some coals, and the whole vessel closed up by a sheet of plate iron, by which means it is kept at a suitable temperature, and protected from oxidation. After some little time, a portion of the matt collected in the lead bath (from the preceding fusion) is placed in the furnace by the first door. Lead readily separates from it, and a very sulphurous, and less fusible matt is the residue. At this time the smoke is very dense, so that a very considerable quantity of lead in the states of oxide and sulphate is lost. It is also just now that the lead runs off most freely; its presence, as well as that of a little matt, softening the contents of the furnace. In proportion to the diminution in the quantity of lead reduced, so is the fire increased, and the whole is finished by the introduction of the matts of the last running. When the whole is in the furnace, the second aperture is that which is generally used; at the end of about 11 hours the lead runs off perfectly red hot and mixed with matts, the greater part of which proceeds from those already added. These matts swim on the surface of the bath, where they solidify. Those immediately covering the lead are allowed to remain, in order that the metal may be defended from oxidation; the other portions are separated from the lead, whilst yet liquid, by means of a strainer. These matts, after a good draining, are again thrown into the furnace by the first door. On the first impression of the heat, these matts, which, when liquid, could retain much lead, now allow it to run from them freely and abundantly. They are composed essentially of a subsulphuret, which is thus transformed into the ordinary sulphuret and metallic lead. The products of this first running are lead matts, and a scoriform matter adhering to the hearth; the lead and matts separate in the basin in which they are run, by reason of the difference of their specific gravities; and it has been seen that these matts, composed essentially of subsulphuret, are indefinitely repassed through the furnace, in order to undergo the process of liquation, which transforms them into lead, which runs off, and sulphuret which remains, capable of reproducing the series of phenomena already exhibited by the natural sulphuret. The scoriform matter, adhering to the hearth of the furnace, consists of—

Sulphuret of lead	56·0
Oxide of lead	20·0
Metallic lead	17·0
Sulphate of lead	traces.
Oxide of iron	6·0
Gangue	1·0—100·0

This is the analysis of a slag from the mills of Conflans by M. Berthier, from whence we may deduce that the scoria is an oxisulphuret—that is to say, a compound of an oxide and a sulphuret. When this is very strongly heated, sulphurous acid and metallic lead are the products; but a reducing treatment is to be preferred, the theory of which is more complicated. The process is as follows:—The schlich, having already furnished a portion of its lead, is submitted to the operation termed liquation, which requires the following precautions:—Some little time after the second running, the slags, &c., are thrown opposite the second door; as then a portion of the hearth is uncovered and quite exposed to the flame, it is possible for it to soften, and be worn down in the operation of discharging the contents of the furnace: to prevent this, some pieces of lime must be thrown upon the part regulating the quantity added, according to the apparent damage sustained. The lime, by its reaction on the substances absorbed by the hearth, gives rise to a sulphate of lime, which much diminishes their fusibility. The last door is then shut, at which all work ceases until the end of the operation. The centre door is also shut, after having thrown all the matters opposite to it against the bridge, and it is not again opened, excepting for the purpose of removing the matts which pass off during a running. The whole contents of the furnace being thrown opposite to the first door, undergo a very high temperature, which is increased as much as possible by the addition of wood in the furnace itself, as well as pushing the fire to its utmost limit in the grate. The intent of adding the wood is to reduce the oxide of lead present, which is continually forming, and which is to be totally reduced to the metallic state. This effect is much favoured by continually stirring the mass, and keeping the whole at a full white-red heat. During this time, the furnace is filled with very thick white fumes, the produce in lead continually diminishes, and the metal runs off, mixed with much matt. The rables used in stirring the mass become rapidly red hot and are destroyed; the oldest are generally employed for this purpose. A third running is made at the end of 13 or 14 hours—this running always brings away much matt, from which the lead is separated by the following process:—When the metallic bath is very hot, some chips and shavings of wood are thrown into it, and above them a little resin: the whole is then strongly stirred with a strainer, until a thick smoke arises. An instant after, the shavings are set on fire by means of a little lighted resin, and the whole stirred rapidly and strongly, so as to bring the inflamed carbonaceous matter in contact with the lead and its matts. The portions which were oxidised are deoxidised, and the broken up matt abandons a portion of its lead becoming lighter and drier. When the flame seems about to be extinguished, a fresh portion of resin is added to reanimate it, and the operation continued for 15 or 20 minutes—at the end of which time all the matt mixed with charcoal, swimming on the surface of the bath, is removed by means of a shovel, and then by a strainer. These matts, thus separated, are again thrown into the furnace—this hardened matt allows yet a large quantity of lead to separate from it by the action of the fire. The uncovered bath of lead is now dull red, and is run into pigs; the three foregone runnings furnish nearly four-fifths of the total quantity of lead produced. The remainder is obtained by continuing the fire for about an hour, stirring the contents of the furnace with a rable, and proceeding exactly as in the last fusion; the product run off is treated with wood shavings and resin, and the remaining matts set by to facilitate the fusion of the next smelting.

At Conflans, the first part of the operation has undergone no change; but the liquation, and the last running, are slightly modified. The substance left by the last running is composed essentially of the sulphuret and oxide of lead; charcoal is added, to reduce the oxide—its lead is thus extracted. It is then roasted, to expel the sulphur, by which means a fresh mixture of oxide and sulphuret is produced, on which charcoal is again made to act. By these successive reductions and roastings, a considerable proportion of the lead is extracted, with abundant matts—this treatment lasts about five hours. Lastly, an excess of charcoal is added, and a violent fire kept up—more lead and matts run off, and black magnetic scoria remain on the hearth of the furnace. They are composed of—

Silica	17·0
Oxide of lead	16·0
Baryta	11·5
Protoxide of iron and iron	53·5
Sulphur	2·0—100·0

Hence this slag is a silicate of protoxide of iron, lead, and baryta, formed at the expense of the silica of the hearth, the iron of the rables, and of the baryta, and sulphate of baryta of the gangues. The lead of the last, or of the two last runnings, is more sulphurated and less pure than that obtained in the first—this is owing to the high temperature employed. It also contains much less silver (if the ore acted upon contained that metal). The slags remaining in the furnace are taken out, and thrown into cold water: they contain about 23 per cent. of rough ore, and, when treated in the *fourneau à manche* (slag-hearth), yield about 6 per cent. of lead. The ordinary produce of one smelting is about 15½ cwts.—that is to say, the ore furnishes about 64 per cent. of metal, to which must be added 6 per cent. extracted from the slags—altogether 70 per cent. from the rough ore. Sometimes such good results are not obtained. The quantity of slag varies from 1 to 2 cwts. The same system of treatment has been adopted at Poullaouen. The charges there are very large, as much as 23 cwts. are treated at one; whilst at Conflans about 19 cwts. is the charge, and at Pezay 22 cwts. At Poullaouen the charge is composed of about 15½ cwts. of Poullaouen ore, and 7½ cwts. of Huelgoët ore. There are obtained as products, lead, matts, and a peculiar scoria, known as *white slag*. As the lead is argentiferous, its further treatment will be spoken of elsewhere. The rich matts accompanying it are formed, according to M. Berthier, of various sulphurets, generally mixed with lead and slag. They contain—

Sulphuret of lead	62·5		55·2
Sulphuret of copper	4·0		0·4
Sulphuret of iron	1·5		3·8
Sulphuret of zinc	0·0		11·0
Lead	32·0		0·0
Slag	0·0—100·0		29·6—100·0

The final residue of the roasting, or the white slags, contain—

Silica	24·0
Oxide of lead	30·0
Oxide of zinc	27·0
Oxide of iron	12·0
Sulphuret of lead	4·0
Sulphate of lead	3·0—100·0

This slag is then, as that produced by the treatment pursued at Conflans, a mixture of silicates, amongst which the silicate of zinc takes a prominent place; this proceeds from the presence of blende in the ore, whilst silicate of baryta is not met with, owing to the absence of sulphate of baryta. The same process is in use at Holzappel, near the valley of Mein, on an ore very much charged with blende. The last slags of this ore remaining on the hearth, after the complete extraction of the lead, contain (according to the analysis of M. Berthier)—

Silica	10·0
Oxide of lead	38·9
Sulphate of lead	8·0
Oxide of zinc	30·5
Oxide of iron	5·6
Oxide of manganese and alumina	2·0
Sulphuret of lead	5·0—100·0

This is, then, a mixture of various silicates, formed by the productions of bases during the treatment employed in the smelting. The rables are often covered in this mill by a greyish black slag, having the following composition:—

Silica and alumina	2·4
Oxide of lead	61·2
Sulphate of lead	4·4
Oxide of iron	16·0
Oxide of zinc	15·2
Sulphur	1·8—100·0

It is the sulphurets of lead and zinc, which give up their sulphur to the iron, forming slightly fusible subsulphurets, which adhere to the tool. This layer gradually becomes oxidised by contact with the atmosphere, and gives rise to three mixed, or combined metallic oxides.

[*To be continued in next week's Mining Journal.*]

PROCESS FOR EXTRACTING COPPER FROM ITS ORES BY ELECTRICITY.

BY MM. DECHAUD AND GUALTIER DE CLAUBRY.

The admirable researches of Becquerel upon the chemical actions effected under the influence of weak electrical currents, have opened a path destined to lead metallurgy to results of which we are even now unable to appreciate the full importance. Having for their object the application of these actions to the extraction of copper from its ores, MM. Dechaud and Gualtier De Claubry have long been engaged in researches which they consider sufficiently matured to command attention, being destined to effect a complete transformation of the existing processes. The following is a brief account of their results reduced to the simplest form. The extraction of copper from pyritous ores is divided into two series of operations entirely distinct—the roasting the ore, and the precipitation of the copper.

The Roasting.—This is effected in a reverberatory furnace, either by the direct conversion of the sulphuret into sulphate by the sole action of the air, or else by another reaction of useful application, which consists in the transformation of the oxide of copper into sulphate by calcining it with sulphate of iron, at a dull red heat in a current of air, the iron being left in the state of peroxide. Suitable washing extracts the sulphate of copper, which contains neither arsenic nor antimony—so that the most impure minerals, as the *fahlers*, will afford copper equally pure, with the carbonates or oxides of copper which contain no other metal.

The Precipitation.—The precipitation of copper from its solution requires, in the galvano-plastic processes, batteries of which the cost is far too great to be employed in metallurgy. It has, therefore, been attempted to obtain the same effect without the use of exterior batteries. The principle upon which the apparatus depends are these:—If we place, one over the other, two solutions—one of sulphate of copper, very dense, and the other of sulphate of iron, less dense—and in the first we place a plate of metal forming the cathode, and in the sulphate of iron a fragment of cast-iron, and then unite these two metals by a conductor, the precipitation of copper commences at once, and is completed in a longer or shorter time according to the temperature, the concentration of the liquids, and the extent of the metallic surfaces; but as M. Becquerel has observed, the physical state of the copper undergoes great change as the liquid becomes weaker. We obviate this great difficulty by turning to profit the observation, that after some minutes' action, there exists four strata in the liquids; at the bottom we find the dense solution of sulph. copper, then a less dense solution of the same salt, which has been deprived of its copper by precipitation; next is sulphate of iron become more dense by the solution of the cast-iron; and last, on the surface, the same salt in its original strength. If, therefore, at the level of each of these strata we arrange suitable apertures for the addition or removal of the liquids, in proportion as the chemical action goes on, we can easily preserve these liquids at uniform states of density, and thus the copper is always pure, and in the same physical condition. In the application of this process to metallurgy, the extent of surface of land required to precipitate a large quantity, becomes an important consideration; it is, however, easy to modify the form of apparatus, though preserving the same principle, so as to avoid this objection. With this object, we arrange the liquids in vertical instead of horizontal layers; they are now to be separated by a diaphragm very permeable to electricity, but not to liquids. Pasteboard answers perfectly for this purpose; it lasts for months without undergoing any alteration, and the quantity of sulphate of iron which penetrates into the sulphate of copper is still too small to effect the operation. The apparatus is, therefore, arranged in the following manner:—A chest of wood, lined with lead, or some suitable mastic, contains the solution of sulphate of iron; through an opening near the top, we add the liquid until the proper degree of density is attained, while through a lower opening the saturated solution is allowed to escape. Into this chest we plunge a number of cases, made of a frame having its ends and bottom formed of iron plate coated with lead; the sides are made of a sheet of pasteboard. The strong solution of sulphate of copper enters through a pipe near the bottom, and escapes in its weak state through an opening at the top. In each case is placed a sheet of leaded iron; between each case, and outside the end ones, are plates of cast-iron. Separate rods connect each plate with the common conductor which is supported above the apparatus. Two large reservoirs of constant levels receive the solutions, and furnish them continuously. We adjust once for all the densities of the liquids, and then the apparatus works on for whole months without requiring any kind of attention. The most convenient strength of the solution of copper which escapes from the apparatus is from one-fourth to one-half of a saturated solution. The copper is precipitated on both sides of the sheet of metal forming the cathode. As the pasteboard prevents the *immediate* contact of the two liquids, we effect this by making small holes through its upper edge, taking care that they are some distance above the highest part of sheets of metal forming the cathode; the sulphate of iron can thus float above the solution of sulphate of copper, and the vertical apparatus now fulfils all the conditions of the horizontal one. At a temperature of 20° Cent. 68° F., one square metre (10·73 sq. ft.) of surface will receive as much as 1 kil. (15,444 grs.) of copper in 24 hours. The precipitated copper is pure, and is always in the same physical condition; the sheets obtained are fit for immediate working under the hammer, or to pass through the rolling mill—four or five passings through this gives the metal a density of 8·95; we, therefore, avoid all the operations required in the common process to reduce it from the form of bars to that of sheets. The manufacture presents no difficulties, requires no refining, and gives no scoria. In a regular manufacture as much as 75 per cent. of the copper has been obtained in the form of sheets, the remainder being precipitated, partly in pure fragments, and partly in powder of cementation. The authors consider as a metallurgical result, at the lowest 50 per cent. of the copper in sheets; 25 per cent. in fragments which only require fusion to be reduced into bars or plates; and 25 per cent. in powder requiring subsequent refining. The question as to the applicability of galvanic action to the extraction of copper, appears to be reduced to the simplest possible form. It is hardly necessary to remark that electrotypes on the largest scale can be thus obtained.

GLOBE OF THE MOON.—Madame de Witt, of Hanover, has finished a globe of the moon, on which she has been engaged for the last 22 years. It is a truly marvellous work of art, setting forth with minute particularity all the discoveries made in or on the moon up to the present time. It is a millionth part of the size of the lunar planet, and, when lighted, represents that luminary as it would appear through a powerful telescope. The German papers state, that the Royal Astronomical Society of London has purchased Madame de Witt's wonderful globe.—*Literary Gazette.*

THE MONA AND PARYS COPPER MINES, AMLWCH,

ISLE OF ANGLESEY.

These celebrated mines, which were discovered about the year 1768, and are still worked with spirit and profit, highly merit a visit from the pedestrian, the mineralogist, and the admirer of Nature. The scene materially differs in appearance and grandeur from any other copper mine in the world, for, on their first discovery, the ore was not found, as in other mines, to be in veins or lodes, but in large conglomerate masses, which admitted of being raised like the workings of an open quarry, and are thus exposed to the present day. They thus exhibit a most romantic wildness of character which appears to a visitor, as if Nature had played her gambols, and in lieu of other amusements, had tossed the rocks and hills about in sport. The excavations in these mines are immense, as may be inferred, from the fact of there having been at one time a stock of 44,000 tons of ore lying on the surface; and at the most flourishing period it is computed, that 80,000 tons of ore were extracted annually from these celebrated mines, which, at that time, commanded the market of the world. The open excavations worthy of notice are the "Hill Side" and the "Open Cast," the former fell in with a tremendous crash about 50 years ago, in consequence of the pillars that supported the surface work having been blasted for the valuable portion of ore they contained. Many years of assiduous labour have, however, partially cleared the fallen rubbish away, which has exposed to open day the most extensive field for geological research ever known. The unconnected and broken appearance of the rock, the diversity of colours in strata, layers, and veins, coupled with the busy working of the miners, blasting the adamantine rock, some ascending from caves, others descending with lighted torches several scores of fathoms to shafts below, impress on the mind admiration of that Power, which created all with a word, and by whose will creation with its wonders exists.

The other excavation is the "Open Cast," where the most lucrative ore was obtained. The descent to this stupendous geological amphitheatre is easy, and will well repay the curious. The spectator will find himself surrounded with layers of ochre, and calcareous earths, subterraneous cavities, different lodes, veins, strata, headings, hangings, adits, large broken tumblers, loose rocks, some of which have borrowed their colours from vitriolic salts, and others have been crystallised by the properties of the noted mineral waters. In the bottom of the "Open Cast" are several shafts, the deepest of which—the engine-shaft—is 120 yards. There are other deeper shafts in Mona Mine—viz.: the Pearl shaft, which is upwards of 200 yards in depth, with an engine of 20-inch cylinder. Among the surface curiosities of these mines, are the roasters or kilns, where the process of calcining, for the purpose of extracting the sulphur from the ore, is carried on. When these kilns are full, timber is applied and ignited, and in 48 hours the ore takes fire, and smouldering slowly disengages the sulphur, which is carried by means of flues to a chamber connected with the kilns; this process lasts from 6 to 10 months, according to the quantity of ore operated upon. The subterraneous architecture in the workings of these mines is sublime and extensive; and of late several Druidical works have been discovered, which has added an additional interest to their antiquities. In these workings large stones were discovered, evidently used as hammers, with several pieces of timber and charcoal ready to be ignited, which was, in ancient times, successfully used in mining operations, before the invention of gunpowder—fire calcines stones, and they easily became scattered with the rustic tools then in operation; a plate of copper, weighing 50 lbs., was found anterior to the opening of the modern mines, which fully attests that the mnerals in the vicinity of Amlwch attracted the notice of a generation remote from our own. Gunpowder makes its way much further, the manner in which it is used in blasting of these mines is the best and the most effectual ever discovered; the simple instruments used are an augur, hammer, pricker, mallet, stamper, and scraper: the augur is 2 ft. long, steeled at the end, shaped like a quivet or wedge; the manner of using this instrument is thus—the miner grasps it with the left hand, turning it continually round, while the other arm forces it with blows from a hammer about 6 lbs. weight; they occasionally pour some water to the hole; when this is done to the depth of 14 to 18 in., they dry it with a rag, and put to the hole a brown paper bag containing about 5 ozs. of powder; when the powder is thus fixed, the pricker is passed down to the bag, and the hole filled with small stones, clay, &c., rammed down as tight as possible; this being done, the pricker is displaced, a stiff straw, filled with powder, is then passed down, which is primed with a match which the miner ignites with an old rope match. Before the using of these paper bags, great mischief occurred in the going off of the blast by a spark caused by the striking either against the instruments or the rock itself. When the ore is thus blasted, it is conveyed in barrows to the mouth of the shaft, there put into large wooden tressels called kibbles, and drawn to the surface by a whimsey of 2-horse power, from the various depths of 100 to 200 yards. In Mona Mine there are 16, in Parys Mine 6 to 8, of these in continual work. After the ore has been brought to the surface, it is wheeled to a commodious spot to be broken—for this operation the miners use the phrase of "rapscalling;" this being done, it is conveyed to tents, each containing from 10 to 20 "copper ladies," whose occupation is to break the ore into lumps of about an inch in size, at the same time collecting as much waste as possible from the ore. The appearance of these women, called "copper ladies," is very singular; they sit in a row before a square block of iron, on which they break the copper, the fingers of the hand which grasps the copper are covered with iron, while the other gaily handles a hammer of about 4 lbs. weight, and thus they toil from six to six. The copper thus broken is carried to the kilns for calcining, as before mentioned. The copper waste, that is thrown aside by these "ladies," is washed by numerous groups of lads, whose lynx-eye quickness in selecting the copper from the waste is truly astonishing. The celebrated mineral waters of these mines are found to hold in solution a great portion of sulphate of copper, which is separated in the following manner:—Extensive dams are erected to contain the water, in which are ranges of square pits, filled with old iron and tin clippings, imported from all parts; the water is then made to flow from the dams, when several old miners are kept employed in agitating the remnants of iron—thus a slow and continued action takes place, by which the iron is gradually dissolved, leaving nearly an equal quantity of oxide of copper precipitated in its stead; the water is run off after being reduced to a standard of 7 or 8 grains, into large and shallow pools, when it is strongly impregnated with sulphate of iron. In 10 to 12 months a precipitation of iron takes place in these pools, which being collected and dried, is sold as yellow ochre, large quantities of which is manufactured into Venetian red near the spot. The precipitation of copper is on a very extensive scale, once in two or three months the mineral water is diverted for a time, when the remnants of the unoxidised iron is taken out, and the precipitation removed to be kiln-dried, ready for smelting.

The mineralogical workings of these mines were formerly guided by three lodes running east and west, called Garreg-y-Doll, Hill Side, and Cerrig-y Bleiddia. The two former are hard flinty rock, for which the miners are paid from 10*l.* to 18*l.* per fathom for driving through 6 feet square; the latter lode abounds in blue slate or matrix. The geological problem existing here, as to the relation between the contents of a vein and the nature of the neighbouring rock, the occurrence of certain cross veins, &c., with the combined registration of several other phenomena observed in these mines, are too difficult to be solved, particularly in the Parys Mine, where the precise connection of mineralogical phenomena existing in other copper mines remains here a desideratum, which the last and most recent discovery made, fully attests—a small quantity of oozing mineral water was observed flowing from the rock (termed in mining phrase "weeping water"); this was followed, and was the only guide that remained for the adventurous miner with the perseverance of several months, and of driving fathom after fathom quite to the north of all the other lodes, at last they were greeted by the opening of a stupendous body of copper, which fully proves, that the principle on which the success of their operations did not depend on, or was guided by any geological symptons, but proceeded entirely from following the oozing water: notwithstanding this disadvantage, discoveries on a most extensive scale have been met with, and it will, we fear, be long ere the invaluable practical skill, and experience of our mine agents, can be replaced by the torch of science, in understanding the nature of this irregular heterogeneous body of minerals. The local circumstances of these mines are so various, and the irregularity and complexity of mineral deposits so great at present, that a corresponding diversity must exist in the means adopted for exploring them: although the general principle and general features of Mona and Parys Mines are the same, yet the lodes are more distinct and regular in the former, so that the same unvarying processes are not exactly suitable in the direction of their mining operations. When we view the geological causes and effects the present aspect of these mines present, it is evident that some great convulsive movement or volcanic excitement must have existed here, which, on a minute inspection in the neighbourhood of "Garreg-y-Doll," will bear to the mind a conviction, that a critical combination of phenomena must have opened an access to the interior energies of some great latent heat. The performances of the immense amount of labour requisite in these mines, lies in letting the whole by a system of contracts, which effectually unites for a time the interest of the miner with his employer, which, being renewed every two months, continually allows of that readjustment, which the fluctuating circumstances of the mine may require.

On the quarter's ending, the usual period of making new arrangements, all previous bargains having expired, both parties are free to regulate their contracts. Previously to this setting day, every part of the mine is visited, and carefully inspected by the underground agents, who consult together, and determine their plans for the ensuing two months. On the day appointed for the setting, as it is termed, the men who usually work at the mine, together with others who may wish for employment, assemble in the mine yard, where, on a covered platform, the head agent appears; every piece of work that is to be performed in the mine is then called out in succession, and accurately defined, then the miners make out a proposition for working it on certain terms. The price thus offered is usually more (in the first place) than would be fair, or than the miners themselves expect to get—consequently, the moment a price is named, another offer will be made somewhat lower, and so on, until fair terms have been proposed, when the competition will cease, and the work or bargain is taken; a small pebble is thrown from the platform to the last or lowest bidder, whose name is registered opposite to its description in the setting-book. There are some cases, when the competition is so great among the bargain-takers, that they seldom even get good wages, but, in most cases, a privilege is given to the old bargainers. The agents find it requisite to adopt a plan for binding the men to their work, so that it should not be capriciously given up previously to the expiration of the two months. We are now particularly speaking of "tutwork," which is to drive levels, sink shafts, &c.; they are paid so much a fathom, according to the work done, and this is the more necessary, as, owing to the frequent fluctuations of hardness incident to the vein, or the rock which they may be working on, sometimes the miner finds himself unable to realise the amount of wages, or anything like what he anticipated; the change sometimes, indeed, is so great, that it is not worth while to go on with the work, but to meet this contingency, the underground agents only let one fathom at a time, and advancement is made in the price in such cases; should the change become favourable to the miners, the advantage is taken *vice versâ*. The "tribute work" is quite different from the "tutwork;" these two species of employment, by an excellent division of labour in these mines, are kept entirely separate, and performed by different individuals, who in time acquire great skill and judgment in their peculiar occupations. In "tribute work" the quality of the ore raised is a consideration equally important with its quantity; the miner receives an actual per centage of the value or standard the ore will produce, which is regularly analysed, or rather assayed, by competent chemists on the spot. In the meantime, the quality and quantity is judged with great precision every fortnight, by the "dressing and surface work agents"—so that a subsist may be paid on account, until a settlement is effected at the quarter's ending, when the standard of the produce is made known, then a balance for or against the miner is declared—thus the necessary discipline is kept over the large number of men that are employed in our mines. There are extensive alkali works carried on with great spirit in the Parys Mine, by the proprietor, Mr. Hills, who consumes the sulphur which has lain dormant for years in the stupendous waste heaps. The process of calcining copper is, likewise, carried on in these works to some extent. In conjunction with the Mona Mines, smelting of the ores is carried on, on a very extensive scale, in the smelting works in the town; 25 furnaces are in full operation, built on *Beecher's* system, called *cupol or cupole* reverberatory furnaces; these furnaces are so contrived, that the ore is melted, not through coming into immediate contact with the fuel, but by the reverberations of the flame upon it: each furnace is charged with 12 cwts. of ore, which smelts in five hours, and yields on a general average about 40 per cent. of pure copper. As the produce of our mines requires fluxes for smelting, ores from all parts of the world are extensively bought to assist the fusion of our native production; a faint idea as to the extent of these works may be estimated, when we say that upwards of 30,000 tons of coal are consumed annually. The climate of these mining districts is remarkably healthy, and the population long-lived, which may be inferred from the fact, that out of the borough population of 3373, the last census, 1841, there lived 19 above 90 years; 27 above 80 years; and 35 above 76 years old—making an average of 81 persons above 80 years old. We now take leave of these celebrated mines, with the full impression, that it would prove a needless repetition to continue the attempt to realise the beauties of them to the imagination, which, for geological phenomena, picturesque boldness, and grandeur of prospects, exceed all other copper mines in the kingdom.

THE MINERAL WEALTH OF SOUTH AUSTRALIA.—No. II.

BY FRANCIS DUTTON, ESQ.

The author then proceeds to describe the geological formation of the hills as far as at present known: the settled portion of the colony is traversed from south to north by a range of hills of an elevation of about 3100 feet above the level of the sea, extending from Cape Jervis in the south to a distance of about 200 miles, in the whole length of which metalliferous veins have been discovered at intervals of 20 or 30 miles, and the entire main range, with the spurs striking off from it, may, therefore, be considered decidedly metalliferous—the rock formation being the same throughout—viz.: clay slate, mica slate, granite, and gniess. Granite shows itself in different places, in the beds of rivers, at the bottom of deep gullies, and forming high peaks, as in the Barossa ranges; other heights are capped with the old sandstone, and a recent oolitic limestone covers the clay slate of many of the lower hills. The minerals already discovered are as follow—viz.: 1. Earthy—as alumina, silex, glucina, &c., consisting of quartz, opals, beryl, topaz, emerald, chalcedony, jasper, garnet, hornblende, slate, pipe clay, and porcelain earth.—2. Alkaline, earthy—as mica, schorl, tourmaline, and chlorite, talc, steatite, meerschaum magnesite, fuller's earth, feldspar, lava, red and black. Acidiferous, earthy—as wavellite, dolomite, magnesian limestone, bitter spar in silicious veins, with gold; limestone, every variety, including carara, white and grey marble; tuffa, silicious and calcareous; alum, sulphate of soda, nitrate of soda. The metalliferous minerals hitherto found are—iron, manganese, tin (small quantity), titanium, antimony (native, small quantity), copper, lead, mercury (locality not now known), zinc (reported), gold (locality not known—a specimen in museum at Derby, brought home by Col. Gawler), plumbago, bitumen. The existence of iron ores in the greatest abundance and purity has long been known; but, from the want of coal—the existence of which, like gold and mercury, is rumoured, but not verified—and the depression under which the colony so long laboured, this useful metal has never been regarded with that attention which it deserves—and the abundance of copper discovered will, for a time, throw the value of these ores into the shade. Numerous varieties have been discovered, both as sulphurets and oxides, and, with very few exceptions, entirely free from arsenic: in many places, large veins of iron of 15, 20, and even 40 ft. wide exist, consisting of compact heavy oxide of iron, entirely free from either arsenic or sulphur, and cropping out on the surface, ready, in fact, to be broken up for the purpose of reduction—many of which are more or less magnetic, possessing polarity. Some samples have been reduced, and found to yield excellent iron with one smelting. Although no coals have yet been discovered, wood for charcoal is almost inexhaustible; and, as charcoal iron is the best of all, the iron ores will, doubtless, at a future period, command attention.—The copper and lead mines are then described, which consists of the Kapunda, Montacute, Mukurta, Yattagolinga, South Australian Company's Mine, Oncaparinga, Mr. Angas's, and the Burra Creek Copper Mines—the ore of the latter of which averages a produce of from 44 to 59 per cent. of pure copper; and the Glen Osmond, Wheal Watkins, and Wheal Gawler Lead Mines. Numerous accounts of these several mines have, at various times, appeared in our columns, which preclude the necessity of here repeating them—suffice it to show, from the following returns, that at present the Kapunda Copper Mine is the richest in the known world, and it appears likely that the Burra-Burra Mine, when worked, will prove richer than the Kapunda.

COMPARATIVE AVERAGE PRODUCE OF THE PRINCIPAL COPPER MINES.

Cuba	Cobre	£11	9	1	per ton.
	Santiago	14	10	6	„
	San Jose	12	11	9	„
South America	Chili (principally regulus)	29	13	6	„
	Valparaiso	15	11	11	„
	Copiapo	18	14	0	„
	New Zealand	10	10	8	„
Average produce of Cornish mines		5	15	6	„
Ditto ditto Irish ditto		6	8	8	„
South Australia	Montacute	13	11	2	„
	Kapunda	24	15	3	„

[*To be continued in next week's Mining Journal.*]

MINING IN AMERICA.

We have been requested to publish the following letter, from the New York *Daily Globe*, as presenting an accurate view of the present position of mining affairs in the Copper Region of Lake Superior:—

SIR,—I discover, in perusing your *Globe*, that you not unfrequently make mention of the copper mines of Lake Superior. Your object, no doubt, as a public journalist, being to call the attention of capitalists to anything, the object of which might be productive of additional wealth to the United States. The following brief sketch of the present condition of the mines is made up from actual observation, and may be relied upon as being correct in every particular. Not owning a single share of stock, or holding any part of a location, I am enabled to give an impartial statement; and an experience of 15 years in mining operations, qualifies me to form as correct an idea as many geological professors, who merely walk over the surface. I will confine my remarks to the companies operating on Keeroannd Point, commencing at the north-east end of said point, and ending at Eagle River, a distance of 30 miles. The first company is called Ill Royal, Mr. Mendenhall agent. This company have 15 men in their employ, and are more engaged in making preparations than mining. They have strong indications, and one good vein discovered of a metalliferous character, as also some detached parcels of grey ores. They will not be able to make any returns this spring. Three miles west lies the Pittsburg Location, embracing Copper Harbour, on which Fort Wilkins is situated. This location is by far the most unpromising on the lake, having been submitted to greater experiment than any other, and with worse results. The fact is, they never had any regular defined vein, nothing more than a detached deposit, such as are commonly found in all mineral countries, and their enormous expenditures with lack of success are alone attributable to inexperience, and not to the resources of the country. There are, no doubt, good veins on their location, but as yet have not been discovered. The same company have another location at Eagle River, which ranks among the best on the lake—the two are, however, consolidated, and renders the former a dead weight on the latter. They employ in all 70 men. The next three mile location is known as Sander's *alias* Superior Copper Company. This location was made by Wilson and Carsen, and being the first made is called No. 1; and when submitted to the same test, the preceding one has underwent, it will, without doubt, rank in silver and copper, as it does on the plat., No. 1. On this location there are no less than seven well defined and regular veins, two alone of which have been operated on; the first of these is purely metallic. It appears in sheet form on the lake shore, and is in breadth about 6 in.; the same vein has been traced back, and a shaft sunk 150 yards from the lake in which they have discovered, and are taking out, large masses of native copper, weighing from 20 to 200 lbs. This vein is proved for several hundred tons of copper. The other vein on the same location, on which experiment has partially been made, is of a metalliferous character, and is in breadth 4 ft.; an excavation of 40 ft. in length, and 10 ft. in depth, has been made, and the yield of ores per cubic yard are enormous. The same vein has been traced back, and *struck* about one-fourth of a mile south of the excavation on the lake shore. I consider this location among, if not, the best on Lake Superior. So far as locality is concerned it is unrivalled; embracing three miles of the lake on the north, and lying within one-eighth of a mile of Copper Harbour on the east; it has also a beautiful stream of water running through the centre, sufficient for all purposes to which machinery would be called in requisition. This company have only six men, but are making preparations for extensive operations this spring.

Next comes Hempstead's, known as the Boston Mining Company. The most untiring energy has been exhibited in endeavouring to develope the resources of this location; and at last the all-preserving agent, Mr. Hempstead, has had the satisfaction of seeing his efforts crowned with success. Although the vein was distinctly marked on the lake shore, and specimens of metallic copper taken out, weighing from 800 to 1000 lbs., it was not until he had penetrated to the level of the lake that the immense "lode" made its appearance. It promises well, only having been discovered a few days. I am not prepared to say what will be the character of the ores; I, however, think the grey ores will obtain in this vein. This company employs 12 men, and are in a state of convenience unequalled on the lake. Agate Harbour, New York Company, are next on the list; and, although an extensive concern, and a great deal of labour done and money expended, it has all been done to no purpose. The vein to which they have been confining their operation is situated on a peninsula, a narrow point projecting west, parallel with the lake, at no place more than 300 yards wide, and not exceeding 10 or 12 ft. above the level of the lake. There is a bare possibility that ores might exist in such a formation, but experiment is far from proving such to be the fact. There may be good veins, and no doubt are, on this location, back on the high land, and their misapplied labour is no evidence against the mineral resources of this country. This company employ some 50 men, and own several locations. The Bohemian Mining Company are in the rear of Agate Harbour; they have an excellent location, and one very promising vein, with strong indications of ores, and when at the proper depth, it will be very rich; they work 12 men. Above Agate Harbour is Grand Marrais North-west Mining Company. This company is merely making preparations for the coming spring, as well as waiting the result of the commissioners' decision in relation to one of their locations, it being in controversy. They have two locations of three miles each. Eagle Harbour is next above, and for beauty of locality is unrivalled; but, like that of Copper and Agate Harbours, they are not working on the right plan. Although they are getting some very rich ores, they will only exist in detached parcels—there being no such thing as a regular vein on any of those low projecting points which form our harbours. They have an excellent vein about 1½ miles in the interior, and are making preparations for working 200 miners here next season. At present they employ only 15 men. The Reed Location adjoins Eagle Harbour, on the west, and is next in order; it is known as Copper Falls. The company commenced operating here in October last, and were fortunate in securing a practical miner and intelligent man, Mr. J. Childs, as agent, and through his perseverance enough has already been accomplished to give character to the whole country as being rich in mineral. When he first commenced, his vein gave no stronger indications of ore than many others, and at the depth of 25 ft. the presence of copper could not be detected; continuing down 15 ft. without a particle, all at once he discovered a sheet of metallic copper, extending across the shaft, 9 ft. in length. This sheet extended down 12 ft., and varies in thickness from 2 to 18 in., and the solid mass exposed is estimated to weigh from 18 to 25 tons. Immediately underneath lies another; of its dimensions nothing can be known until the upper is removed. He has discovered the same vein some 300 ft. north, and it is of similar richness. Of the immense value of this discovery, I will not pretend to speak; but pass on to Eagle River Lake Superior Mining Company. This is the oldest concern on the lake, and, though they have raised an immense quantity of ores of a metalliferous character, were never able to find from whence they emanated until within a few days. At the depth of 80 ft. they discovered a cave, some 10 ft. high and about 4 ft. wide; in this aperture was found, miscellaneously distributed, various pieces of pure metallic copper, of different forms and sizes, resembling the Agate pebbles on the lake shores. Some 5 or 6 ft. further down, and entirely below all appearance of volcanic action, was discovered the vein, 3 ft. wide, of the real sulphurets, from which no doubt all the metallic copper originated. This discovery I consider the "cap sheaf" of all heretofore made on the lake, and settles at once the various conjectures respecting the origin of metallic copper. This is the most extensive concern on the lake, employing 120 men.

Four miles farther up Eagle River, and in the same range of Bluffs, lies the Pittsburgh Location. This location is yielding metals—not only copper, but those of the precious order—more profusely than any other on the lake; the facility for working it being greatly enhanced by a perpendicular bluff, some 200 ft. high, by which the necessity of sinking shafts is entirely superseded. This location is of great value, and but for the fact that it is consolidated with the one previously mentioned (at Copper Harbour), would divide a handsome per cent. on a large sum; as it stands at present, the stock can only be of trifling value. There are several companies above, on the lake; but not having been there for some time, I am unable to say anything of their operations. I have thus given you a brief outline of the true state of the mining interest on this point, and feel warranted in asserting, that nothing is wanting but science, and practical knowledge of mining, with perseverance on the part of the respective companies, to place this country on a par with, or superior to, Cornwall or any other mining country in the world.

P.S.—Since writing the foregoing they have discovered, at the Copper Falls Location, solid particles of native silver as large as hen's eggs, accompanying the sheet of copper. I was under a mistake in giving Mr. Kermek credit for the discovery of the vein at Eagle River Bluffs, and have, as you will discover, expunged it.—C.: *Copper Harbour, March* 31.

DIAMOND MINE IN GEORGIA, U. S.—The *Dahlonega Times*, of the 23rd ult., notices a diamond of the first water, about the size of a large pea, belonging to the Rev. P. Cheek, of Henry County, which was found recently in the Union Gold Mine. This discovery of diamonds in Georgia will probably give an impetus to mining operations in that state.—*New York Sun.*

OLD JERSEY COPPER MINES, U. S.—The value of these mines appears to be attracting attention, now that the practicability of working them seems to have been suggested by the prosperous enterprises about Lake Superior. The mine lying on the north side of the Blue Mountain in Pahaquarry township, Warren County, near the Delaware, is advertised for sale. Another, 40 miles from New York, and only a mile and a half from a railroad, is also advertised.

MARBLE.—A vein of fine marble, between 30 and 40 miles in length, has been discovered in Hawkens County, Tennessee, which alternates in colour from the lightest to the darkest red, and susceptible of the highest polish.—*New York Sun.*

ELECTRIC TELEGRAPH STRUCK BY LIGHTNING.—The magnetic telegraph wire was struck by lightning at Lancaster, several times last week. It is too small to contain fluid enough to do harm. The sound in the office, which was accompanied by a few sparks, was like a pistol shot.—*New York Sun.*

Original Correspondence.

IMPROVEMENTS IN THE UPPER WORKS OF RAILWAYS.

RESPECTED FRIEND,—The descriptions in the last Number of the *Mining Journal*, of Thomas Motley's improvements in the upper works of railways, has led me to consider if the invention could be modified, so as to prevent the possibility of a train running off the rails; but I imagine that an oversight has been made by the inventor. It seems to me that no provision has been made for preventing the fender from being an obstacle to the train passing a cross road, where the rails of the two railways may be at the same level, as the fender is represented in the engraving as considerably lower than the wheels; neither can I comprehend how a carriage, constructed on this principle, could be placed on a turn-table—the fender must, I suppose, prevent it; but I have thought that, by forming a groove under the rail (which groove would be partly formed by the rail itself), a kind of rail might be fastened by hinges to the fender, in such a manner as to allow their being lifted against by means of a small bar passing between the wheels, in order to allow of the carriage being placed on a turn-table; these moveable rails would, by sliding along the groove under the saddle rail, effectually prevent the train running off the rails, even if they were placed on only one of the carriages of each train. I do not intrude these remarks by any wish to deteriorate the value of the invention of T. Motley, which, on the contrary, I consider of considerable importance, but simply as a modification, of which every great invention is susceptible.

Liverpool, 25th of 5 mo. ——— JOHN DE LA HAYE.

COLLINS' ATMOSPHERIC RAILWAY SYSTEM.

SIR,—I think your description of my atmospheric railway in last week's Journal as good as can be given in so short a space. I have corrected two errors—the model is 1⅝ in. diameter of pipe, and the driving rod is *never* in *the vacuum*. Without any wish to prejudice your judgment, I will make a few observations on your concluding remarks. In the first place, the valves, as you say, are slide valves, sitting in a seat, and cannot leak to such an extent as a flap valve; but, granting they leak, space for space, as much as Mr. Clegg's (the longitudinal), even then the leakage would be 40 to 1 in my favour. The first cost—you will remember that, by my method, one-half of the length of railway pipe *is whole*, nothing being done to it; the other half is boxed over, and bolted down air-tight: the *quantity of iron*, would be *very* considerably less, by reason of the pipes being thinner. There is no long slit—consequently the pressure of air cannot compress the pipes together, as Mr. Clegg's would be, were it not for the crescents or ribs, as well as the tube being much thicker at bottom than near the slot. I am satisfied the expense would be *less* than the Messrs. Clegg and Samuda's. The liability to derangement and friction is little, if any, more than in the longitudinal—in that the valve is raised by rollers: there is the friction of them, and the force requisite to tear the valve out of the seat and wax. I hope you will bear in mind, that the rod can *be jointed*, and the gearing parts so arranged as to work any curve in railway practice.—C. H. COLLINS: *Cromer-street, May* 27.

[We readily give insertion to Mr. Collins' explanation, as we have no wish to prejudice his invention: we cannot, however, avoid thinking its complexity would, in practice, be detrimental to its working,—while jointing the rod, for the purpose of turning curves, would, it appears to us, render its secure locking to the piston very questionable. We have no doubt the slide valves are far less liable to leakage than the longitudinal valve of Messrs. Clegg and Samuda, though, at the sametime, they must be productive of considerable friction. A full size model could alone give a satisfatory idea of its capabilities.]

THE LATE ACCIDENT ON THE BRANDLING JUNCTION RAILWAY.

SIR,—I have expected that some notice would have been taken of the letters of your correspondents, and the strictures which have appeared in your columns, touching the accident on the Brandling Junction Railway. I do not put myself forward as the champion, or advocate, of the directors, nor do I attempt to enter into that explanation, which, I feel satisfied, those gentlemen, and the talented engineers employed in the construction of the line, are so well competent of doing; but I cannot, in the absence of any observation on their part, allow the charge of neglect on their part, unsustained, as I contend it is, to remain on record, without at least an attempt to set the public mind right. In the letter of one of your correspondents, who, methinks, understands *rail*-lery better than the *rail*, although he describes himself as oft travelling by the latter, he takes upon himself to state that the cause of the late accident, as also one in the autumn of last year, is to be ascribed to the curve at a particular portion of the line; whereas it is insinuated, if not directly expressed, that a direct line might have been acquired, and thus the melancholy accidents avoided. This is very pretty, so far as it goes; and if truth pervaded the statement here put forward, I should readily agree with your correspondent. But what is the fact? This I shall endeavour briefly to put you, and your readers, in possession of; and as documentary (and that printed) evidence is the most conclusive in my opinion, but most certainly in opposition to that advanced in the present instance, the following extract from the report of the directors, now before me, will, I think, at once render it clear, that however the directors, or their engineers, might have been desirous of avoiding the curve, yet that the obstacles thrown in the way by Mr. Wallis, and the terms which that gentleman attempted to exact, were solely the cause of the deviation from the intended direct line:—"The above arrangements enabled the directors to secure a line crossing over the Laygate-road, and approaching Metcalf's Dock, at the level laid down upon the plan signed by the managing director, and sent to the dean and chapter by the engineer, and which is now being executed by the company; but in consequence of their inability to agree with Mr. Wallis, they have been obliged to adopt the present circuitous line, instead of the straight line projected by Mr. Wood through that gentleman's property." Let the saddle be put on the right horse, and as you have given insertion to the views entertained by others, who appear to me to be adverse to the directors, you will, perhaps, give place to the present, as coming from—ONE DISINTERESTED: *North Shields, May* 26.

SQUARING THE CIRCLE.

SIR,—From numerous experiments, which I have lately tried, I believe the following to be the true proportion between the diameter and circumference of a circle. If the diameter be 1, the circumference will be 3·0625, and the area ·765625; the side of an equal square ·875. Or, if the diameter be 16, as in the accompanying rough sketch (which is on $\frac{1}{16}$ of an inch scale), the circumference will be 49, and the side of an equal square 14, as shown in the cut. JOHN HARRIS.

Dubwalls, Liskeard, May 26.

SIMPLE MODE OF PROTECTING FROM LIGHTNING BUILDINGS WITH METALLIC ROOFS.—Houses covered with metallic roofs are more liable to be struck with lightning than those covered either with shingle or tile. Fortunately they can be perfectly protected by very simple means. To accomplish this, the roof must be put in metallic connection with the ground, by means of the tin or copper gutters which conduct the water from the roof to the earth. For this purpose it is sufficient to solder to the lower end of the gutter a riband of sheet copper, 2 or 3 in. wide, surrounding it with charcoal, and continuing it out from the house till it terminates in moist ground. The upper ends of these gutters should be joined to the roof by a slip of sheet copper. The only part of the house remaining unprotected by this arrangement will be the chimneys; and, to secure those, it is only necessary to erect a short rod against the chimney, soldered at its lower end to the metal of the roof, and extending 15 or 20 in. above the top of the flue.

BEAL'S ENDLESS SAW.—We have received a drawing and description of a belt-saw, which is now in successful operation at Oxfordville, N. H. The saw is endless, like a belt for driving machinery, and is tightly drawn over two drums, one of which is directly over the other, the saw being sufficiently elastic to play over them with perfect freedom, and running perpendicularly between the two drums. The peculiar advantage of this saw is, that its motion is continuous in one direction, in consequence of which it not only accomplishes twice as much work as an ordinary vibrating saw, but saws much smoother. We have been informed that a similar plan for sawing, was introduced some years since in Georgia: but as that did not succeed, it is probable that this inventor has effected such an improvement, that the invention will continue to work well. We could never understand why a saw, on this plan, might not succeed well. Mr. Royal Beal, of Oxfordville, is the inventor.—*Scientific American.*

A correspondent of the *Gateshead Observer* recommends the building of houses with hollow walls, with strengtheners or "throughs" at intervals. Such houses are impervious to damp from without, and cold cannot penetrate through the walls. The girls' school, at Alston, is so built.

STATISTICS OF THE COAL TRADE.

THE COAL MEASURES OF BRITAIN.—The coal measures are not confined to the north of England, in Northumberland and Durham; they are to be found, fortunately for this country, forming large portions of the stratification in many districts of the three kingdoms. From the Grampians to Sussex, and from the German Ocean to the Irish Sea, the predominating geological feature of the British island is the "carboniferous series," with the most magnificent coal deposits accessible in every direction. These have been the source of Britain's internal riches, and the great cause of the development of the mechanic arts, which distinguish her above all other countries. Had the granite of the Grampians, it has been said, and said justly, extended into Sussex, or the chalk of Sussex to the Grampians, the whole course of British History would have been changed. Nineteen of our most important manufacturing cities, which lie upon the new red sandstone, drawing from beneath them the coal, iron, and lime—the sources of their manufacturing prosperity—in either case, it is probable, would never have existed.

In Ireland, the coal measures exist in the provinces of Munster, Leinster, and Ulster; in Clare, Limerick, Monaghan, and Kilkenny.

In Scotland, in the shires of Ayr, Renfrew, Linlithgow, Fife, Edinburgh, and Haddington.

In England, in the counties of Cumberland, York, Derby, Nottingham, Lancaster, Stafford, Chester, Flint, Leicester, Warwick, and Gloucester.

And in South Wales, in Monmouth, Glamorgan, and Pembroke, as well as in the two northern counties of England.

By examining a geological map, it will be seen that the northern coal-field is exceeded in superficial area by the Irish field in the province of Munster; by the Scotch, which crosses the breadth of the island from Ayr, on the west, to Haddington, on the east coast; by the English in the Yorkshire and Derby field, extending through a great part of two counties; also by the Lancashire; and infinitely surpassed by that of Glamorganshire and Monmouthshire, in South Wales. The extent of area of—

South Staffordshire may be reckoned at	100	square miles
The Northumberland and Durham	360	"
The Lancashire may be taken at between 500 and	600	"
The Yorkshire and Derbyshire nearly	700	"
And the South Wales	1000	"

The north of England coal-field contains about 30 seams of coal—making a total thickness of about 30 feet.

The South Staffordshire contains only about 11 seams, but, to compensate, there is one 30 feet thick; whilst, in the north, the average thickness of the best coal is under 6 feet.

The North Staffordshire possesses more than 30 seams—from a few inches to 10 feet in thickness.

The South Wales possesses about 100 seams—making 95 feet of coal, the thickest of which is 9 feet; the coal measures being about 12,000 feet.

The Lancashire has 75 well-defined deposits of coal—making about 150 feet total thickness.

The coal-field of the Clyde Valley has 84 separate seams, with a seam of 9 ft. thick; the entire thickness of these coal measures being reckoned at 5000 ft.

In Ireland the chief field worked is that of the Leinster; but, near Tyrone, an exceedingly fine deposit of bituminous coal has been found, from 20 to 30 ft. thick.

One geologist, Conybeare, in his *Introduction to Geology*, states that the Yorkshire and Derbyshire Coal-field rivals, or surpasses, in importance that of the north, and which he conceives to be the re-emergence of the latter from beneath the magnesian limestone. Another geologist, Bakewell, in his *Geology*, calculates the South Welsh Basin to be about 1000 square miles of 95 feet of coal, containing 100,000 tons per acre, or 64,000,000 tons per square mile—or almost as much as will supply the country, at its present rate of consumption, for 3000 years. A matter of comfort for the present generation.

This sort of calculation, by Bakewell, of itself amounts to nothing, without taking into account other elements—as accessibility, facility of carriage, capital, and labour, and comparative qualities. For many years the difficult accessibility of some of the best Durham coal prevented its working—for want of the facility of carriage, now to be removed, all the Midland coal has hitherto been kept out of the market—for want of capital and cheap labour in America, English coal can be delivered upon the finest coal deposits in the world, 3000 miles away, in the United States, at less cost than the coal beneath can be worked; and, by comparative quality, the finest coal of the Tyne having been much exhausted, the less worked coal of Durham, in the same field, brings 2s. per ton more in the London market. The possession of a coal deposit is not enough of itself, as these facts demonstrate.

THEIR QUALITIES.—The proportionate quantity of gas yielded by the Scotch cannel, the Gloucester cannel, the Lancashire and the Cumberland coal, and the constituents of these and other coals, demonstrate many of them to be equal, and, in some points, some of them superior, to the northern coal.

Mr. Accum, in his experiments at the Royal Mint Gas Works, procured from an equal quantity (one chaldron) of the following different specified coals, these results:—

	Cubic Feet of Gas.
Scotch cannel coal	19,800
Lancashire cannel coal	19,608
Gloucester coal, best	16,584
Newcastle coal, best	16,920
Ditto another variety	16,584

The Warwickshire coal continues to give out good gas longer than either the Newcastle or South Wales.

THEIR CONSTITUENT PRINCIPLES.—The following are the general constituent principles of different varieties of British coal, as shown by Kirwan, Dr. Watson, Dr. Ure, Karsten, and others:—

	Volatile Matter.	Charcoal.	Earthy Matter.
Newcastle	40·	58·	1·80
Whitehaven	41·3	57·	1·7
Lancashire	36·7	61·73	1·57
Derbyshire cannel	47·	48·36	4·6
Scotch cannel	56·57	39·43	4·
Leitrim	23·37	71·43	5·20
Alfreton furnace coal	45·50	52·45	2·04
Swansea	23·14	73·53	3·3
Welsh furnace coal	8·50	88·06	3·4
Welsh stone coal	8·	89·70	2·3
Kilkenny	0·	97·3	3·7
Anthracite	0·	97·25	2·7

In this list we perceive a richer and more bituminous coal than in the Newcastle, in the Whitehaven, Scotch, and Derbyshire cannel, and Welsh coals The too frequent explosions of fire damp amongst them give indications of their rich gaseous and bituminous composition; and in the Irish, Kilkenny, Welsh stone coal, anthracite, and Swansea, we find, for smelting of iron and steam purposes, a coal infinitely better adapted for these most useful objects than that of the northern field. The coals of the northern field, though, to a certain extent, uniform in each mine or locality, differ widely as to their nature and quality throughout the whole deposit—hence the value of the produce varies at this moment in the London market from 11s. 9d. (Oakwellgate) to 17s. 3d. (Haswell); the average of the three lowest being 12s. 7d., and three highest 16s. 11d. per ton—a difference of upwards of 30 per cent. Whatever be the result to the superior description, the inferior quality, forming more than one-half of the coals shipped to London and the other coast markets, will the more easily meet with successful competition from the southern and western fields.

With regard to the anthracite description of coal, Lyell states, in his *Geology of North America*, "that, as managed by the Americans, I have no hesitation in preferring its use, in spite of the occasional steam-like heat produced by it, to that of bituminous coal in London, coupled with the penalty of being constantly in a dark atmosphere of smoke, which destroys our furniture, dress, and gardens—blackens our public buildings, and renders cleanliness impossible." The anthracite which he thus eulogises is similar to much of that of South Wales—it burns without smoke, leaving a clear atmosphere. Some of the American manufacturing cities having over them an atmosphere as pure as that of Naples. Notwithstanding all these advantages (and they are many), and the eminent opinion just quoted, we question much if this anthracite, with its difficulty of lighting, its sluggishness, and drying effects on the air of rooms, even with the assistance of the Arnott stove, will displace the best bituminous sea coal of the north, with its cheerfulness, light, and warmth. The smiling comfort of an English fireside consists materially of these qualities, and we hold with Professor Ansted, in his *Text Book*, that "the coal of the northern coal-field is the most bituminous, and the best adapted for economical purposes of any yet known."

From the fortunate union and proportion of volatile matter and charcoal in the best description of northern coal, with its great freedom from earthy matter—its abundance and accessibility—it has, up to this period, enjoyed, not only at home, but in the markets of the world, a pre-eminence and demand beyond rivalry. These are the causes of its success, in our opinion, though, we must admit, it is not that which generally obtains throughout. We must not blink the fact, that practical men entertain the opinion that the more accessible position of the northern coal-field, intersected by three navigable rivers, has been the chief cause of this advantage; and that it will be reduced, if not altogether destroyed, by the at least equal facilities of carriage, soon to be afforded by the established and projected railways to the other valuable coal districts of the kingdom. It would not be safe, in an inquiry of this nature, to throw discredit upon that belief, or to abstain from weighing its consequences, because they may be of a serious and injurious nature—such a procedure would not prevent, but might facilitate, the dreaded results. A wise course in this, as in all difficulties or dangers, seems to be to look the evil firmly in the face, and calmly to investigate its nature and mode of approach; then, with a full knowledge o all the circumstances attending it, to decide clearly, and act with energy. It is safer thus to do than to affect to despise what you fear—to shut the eyes to it, and fancy it afar off, till it is upon you, and unpreparedly overwhelms you. That would be to see the cloud that bears the hurricane, and to send all hands below, and not to furl the sails and prepare for its furious bursting.

We have seen then, that, in extent and abundance, the northern coal-field is infinitely surpassed by the deposits of the other districts, and that it is approached by many of them in quality, and in some instances exceeded, for particular purposes. These immense resources of British mineral wealth, it appears, only require favourable opportunities and means of transport for their development.

THEIR GEOLOGICAL ACCESSIBILITY.—That it is not the geological accessibility of the northern coal that gives it its advantage, may be inferred, when it is stated, that the mines for this coal are the deepest and most expensive in the country, frequently overlaid with immense feeders of water and quicksands, as that of Haswell, discharging 1000 gals. a minute; or that of Datton-le-Dale, requiring pumping-engines to the amount of 1274 horses, to enable them to pass a quicksand. Some of these mines are 1200, 1300, and even 1700 feet deep, —as the Monkwearmouth, 1794 feet, costing upwards of 80,000*l.*; whilst those of Derbyshire and Leicestershire seldom are more than 700 or 800, but occasionally 1200 and 1300—(near Chesterfield the pits are from 300 to 500 feet deep, from which coals are now being sent along the railways to London)—those of Staffordshire are generally only from 100 to 600 feet deep—the average being about 450 feet, the deposit frequently rising to the day; Lancashire, on an average, are from 750 to 100; and Wales generally much less, even than the Staffordshire, and are often worked level free—so that, on this point, the northern coal is placed at great disadvantage. It has thus been a combination of quality, geographical accessibility, and unusual facilities of transport, that has hitherto given a predominance to its demand.

Now, let us exactly see our present position. Nearly similar good qualities with the northern have been discovered in other British coals, more abundant, and, geologically, more accessible, but kept out of the market hitherto, except for local supplies, by their geographical and topographical position in the interior, removed from convenient shipping ports. This obstruction to their general competition, which has aided to produce the almost monopoly of the northern coal trade, and the consequent splendid commercial marine attached to it, is, however, it is calculated, about to be greatly reduced, if not entirely removed, by the facilities of conveyance of the numerous lines of railways, entering and intersecting all the British coal-fields, which will transport their produce to London—the great mart of the northern coal, and distribute it to all the various towns and districts of the country.

DISTANCES OF THE SEVERAL COAL-FIELDS FROM LONDON.—The statement of the distances of the different coal-fields from London, in whose market—the seat of its strength—the northern coal will encounter its great competition, is all that remains, with the cost of transit on railways, to demonstrate our position:

The Warwickshire Coal-field is under	100	miles	from London
The Staffordshire Coal-field is less than	125	"	"
The Leicester coal-field, at Leicester, is	122	"	"
The Great Coal-field of Derbysh. & Yorksh., at Derby	152	"	"
The South Wales Coal-field, at Merthyr Tydvil, is	135	"	"
The Lancashire Coal-field is about	190	"	"
The Great Northern Coal-field, at Newcastle, is	270	"	"

So that, in a competition of carriage of coal by land to London, the northern coal-field will be cut off by the nearer, and then the more fortunately-placed coal-fields, which will enjoy the advantage by land that the northern does now by sea. A reflection deeply interesting to the northern coalowner as shipowner.

It is an interesting fact, that the various coal-fields of England and Scotland will, from each adjoining field, meet the next adjacent nearly on a radius of 30 miles, forming a chain of deposits from Scotland to South Wales. That, therefore, the whole country, from north to south, will be supplied with coals, nearly within that circumference, from their several points. The east and west coasts, to their very verge, not exceeding 50 miles at any point, from the nearest coal district. The south-east and south-west of England, and the north of Scotland, and north-west of Ireland, possessing the most distant points, yet those not extending over 150 miles, will show the easy practicability, by railway facilities, as existing on several of the combined goods and passenger lines, of supplying land-carried coals, exclusive of sea-borne, to the entire country.

If London, then, not more than 100 miles from the nearest mines, can be supplied with railway-carried coals, it is evident that the country, at no point 50 miles from the mines, with immaterial exceptions, will be more certainly supplied by similar means.

COAL MINES OF THE LOIRE.—We stated, in a former Number, that M Delessert had brought forward a proposition respecting the monopolising combination of the mining company of the Loire, which was submitted to a commission for approval. The Minister of Public Works does not, however, enter entirely into the spirit of the commission on the point, and considers that the law of 1810 does not prohibit associations of companies that may be formed, without the sanction of Government, and, consequently, are not illegal. It must be remembered, however, that the son-in-law of the Minister is one of the principal shareholders in these mines, and, consequently, is a partial judge, having private family interest at stake. This question has been very ably treated in the report of M. Chaix-d'Est-Ange, which caused the debate in the Chamber. The coal basin of the Loire is divided into three regions or mines—that of Rive-de-Gier, St. Chamond, and St. Etienne. Hitherto they constituted 60 distinct grants. This basin is the richest in the country, and furnishes annually 15,000 hectolitres, which is about one-third of the whole produce of France; and that in an extensive iron and manufacturing district, which demands a constant supply of fuel, which ought, therefore, not to be monopolised over. The mining company of the Loire is composed of 57,965 shares, with a capital of 2,400,000*l.*, which is greatly increasing by further purchases. Out of the 60 concessions, this company alone possesses 25, which are very rich and productive, as out of 15,000,000 cwts. to 16,000,000 cwts., or quintals, produced in 1845 (being the total quantity yielded by the basin), the portion belonging to the company produced more than 11,000,000 cwts. The grand object of the company is ultimately to obtain the whole of the collieries of the Loire in their own hands, by causing the smaller mine-owners to form themselves into associations, which they are aware cannot hold out long, and then they will have the opportunity, by causing dissension among them, and purchasing them out and out. The commission which has been appointed to examine this important question, has come to the following resolutions:—"Art. 1. The amalgamation, or divisions, of the grants of mines that may be concluded, without a previous authority, and likely to cause disaffection and trouble, or be injurious to the public, demand is sufficient to authorise the taking away, or cancelling, such grant. Art. 2. The application of this measure shall be preceded by an inquiry by Government, the form of which to be decided upon by the rules of the administration. Art. 3. The cancelling the lease, and re-letting the mines, shall be according to the forms prescribed by Art. 6 of the law of April 30, 1838."

MANUFACTURE OF GUTTA-PERCHA.—This newly-discovered substance, which has only been introdnced to this country within the last three years, is already found to possess properties which will render it highly important in the arts. Mr. Brooman, of Fleet-street, has obtained a patent for its application, in various ways, as an ingredient in artificial fuels, mastics, and cements. In his specification, he describes five kinds of artificial fuel; the first composed of 80 or 90 parts of small coal, and pitch from coal tar, to 20 or 10 parts of gutta-percha; the second of seven parts of gutta-percha, eight of small coal, four of saw-dust, and one of coal tar, or pitch. These are fuels for ordinary purposes; the three others are for burning, to obtain the deposit, or unconsumed carbon, as a fine pigment for the manufacture of printing inks: one is composed of three parts of gutta-percha, and one of coal tar; another of gutta-percha and caoutchouc, in equal quantities; and the last of gutta-percha alone. In preparing this substance for the manufacture of various mastics, cements, and coating for hempen, woollen, and other fabrics, required to be water proof, it is first freed from all foreign matters with which it may be mixed, by undergoing a washing process in a water tank, kept up to a temperature of from 180° to 200° Fah., into which it is passed several times between two steel or iron rollers, immersed in the water: thus prepared, it may be applied either in a plastic, granular, or soluble state. For the first, it is well worked in a kneading machine; for the second, it is rasped into a fine powder—and in these states it may be combined with sulphur, various powders, colours, bristles, sawdust, &c.; and for the last, it is dissolved in rectified naptha, or oil of turpentine: these the patentee prefers, although it is soluble in nearly all the essential oils. The articles of manufacture to which the gutta-percha thus prepared is most usefully applicable, are single and double fabrics of cotton, wool, and other fibrous materials, leather and membraneous textures, table covers, floor cloths, goods' wrappers, tarpaulings, printers' blankets, driving bands, &c.; also, in the plastic state for glass and picture frames, cornices, pannelling, and other architectural ornaments, mosaics, buttons, studs, labels, balls, bracelets, armlets, garters, rings, reins, bridles, belts, bands, and various other descriptions of articles, which are never exposed to more than ordinary degrees of temperature.

Man Machinery at the United Mines.—Following the good example set by the Tresavean Mining Company—the first, we believe, in this country who applied machinery for raising and lowering miners—the owners of the United Mines have erected substantial machinery, for the same purpose—taking advantage of the experience gained by its use at Tresavean,—and a description of it, with diagram, appears in the *Thirteenth Annual Report of the Royal Cornwall Polytechnic Society*. From this we learn, that the principle in no wise differs from that applied at Tresavean, although much improvement has been made in the general arrangements. It may shortly be stated to consist of wood rods, having a reciprocating motion, with platforms attached to them at certain distances, on which the men stand, and step from the one rod to the other at every turn of the stroke which the rods make. The engine is a 32-inch cylinder, double acting, six feet stroke. Besides giving motion to the man-machine, it crushes nearly the whole of the ores, which the mines produce, and works two lifts of pumps required in sinking the shaft below the 170 fm. level. These extra works require it to be always at work, instead of only at intervals, as at Tresavean. The wheels on the crank shaft are each two feet four inches diameter, and they drive two others of 14 feet diameter each—consequently, six strokes of the engine are required to make one revolution of the large wheels: to one of the arms of each of these the horizontal rods are attached at a distance of six feet from the centre—thus making the length of the stroke 12 feet; the part of the shaft, which is 12 feet by eight feet, taken up by the man machinery,—and a ladder way, in case of accident, is four feet six inches by two feet six inches, and which is found amply sufficient. The wood rods are 7½ inches square for the first 60 fms. below the surface, seven inches square the next 100 fathoms, and 6½ inches square the remaining 50 fms.—making together 210 fms.: the distance from centre to centre of the rods is two feet, platforms on which the men stand, 18 by 15 inches, and so fixed on the rods as to have a space of six inches between them at the time the men step from one to the other: they are fixed at the same distance as the length of stroke—viz., 12 feet. The average depth to which the miners descend is 200 fms., which requires from 16 to 17 minutes, and the same time in the ascent—making 34 minutes; while, by ladders, it is 65 minutes—thus saving in time only half-an-hour per day; while the relief afforded to the miner can scarcely be calculated, and can only be felt by the men, who, having their whole strength and spirits exhausted by working for eight hours, and sometimes longer, in an atmosphere at from 95° to 105° of Fah., had formerly to climb to the surface by ladders. The physical suffering which it alleviates is incalculable. The half hour saved to each miner per day would give, in round numbers, 150 hours in the year, which, at 4d. per hour on 450 men, is equal to 1187*l.* 10s.; deduct cost of working machinery, 360*l.* per annum, leaves a clear saving in money of upwards of 800*l.* per annum,—and although it is difficult to calculate the increased amount of labour, doubtless much of the strength before required to bring them up the ladders is now expended in their work. The cost of this machinery, independent of the engine, was 2000*l.*

Atmospheric Railways.—The atmospheric system is becoming daily more and more in favour on the continent, and the most experienced and scientific engineers of each State are now testing the best method to be adopted. Councillor Schmid, the inspector of the State railways of Austria, who was commissioned by the Government to visit England and France, to study the different systems of atmospheric propulsion, has returned to Vienna: his report on the atmospheric system is very favourable, and it appears that the Austrian authorities intended to apply the principle for crossing the Alps—a part of which they will have to blast, so as to carry out the line from Vienna to Trieste, also for crossing the mountain of Semmering, which at present intercepts the free or uninterrupted line to the south. When this grand undertaking is accomplished, of which there is very little doubt, the exertions of Lieutenant Waghorn, for transmitting the Overland India mail from Alexandria to Trieste, *viâ* Austria and Ostend, will be fully successful, instead of through France, *viâ* Marseilles.

The Atmospheric System—Croydon Railway.—After the business had been transacted at the special meeting of shareholders, on Monday last, Mr. Samuda proceeded to give some account of the working of the atmospheric system on the line. He stated that since he had last reported, the number of trains had been increased from 32 to 39 per diem. This was absolutely necessary from the rapid increase of the traffic, and the result of the increase of accommodation had proved most satisfactory. The regularity of the trains had been very much increased, though occasionally some irregularity occurred from the difficulty experienced in getting over the viaduct, unless the trains have started at such rapid speed as to carry them over by the momentum given. He had, therefore, directed his attention towards a removal of the difficulty, and he proposed a plan which he believed would have that effect. He proposed to fix at the top of the viaduct a small cylinder, to be worked by the vacuum produced in the tube. This will give motion to a small capstan, which will lift the train on, on the principle of the crane, and will effect the passage of the trains over the viaduct, irrespective of any momentum given. The most erroneous statement, he said, had been circulated with respect to the working expenses of the atmospheric system. It was affirmed, that the cost amounted to 2s. 10d. per train per mile. Now, he had instituted a comparison into the cost of the two systems; and he found, from the data afforded by the last half-year's account, on the one hand, and the actual charges of the atmospheric system on the other, that, notwithstanding all the difficulties with which they had now to contend, the saving had been about 22 per cent., and with increased expense, and after the introduction of engines constructed on an improved principle, it would be much less. Each stationary engine worked a distance of three miles at an expense of about four guineas a day. With greater experience on the part of the workmen, and with engines on a better principle, he calculated they would be able to limit the expenditure of each engine to three guineas, which, excluding the expense of the terminal engine, would give an average cost of about 6d. per train per mile, or a saving of about 3d. Engines on a new principle were in course of construction by Messrs. Boulton and Watts. —The Chairman, in reply to a question from a proprietor, stated that the directors expect that the Croydon and Epsom Line will be opened in the autumn. He might also state that, if the traffic on the Croydon Railway progressed as it had done of late, they would soon be in a condition to lay down a double line on the atmospheric system. In the first fortnight of the month of May, 1843, the number of passengers carried over the line amounted to 8500. In the corresponding period of this year the traffic amounted to 43,000 passengers.

The Epsom Atmospheric Line.—Workmen are employed at the New Cross station, Kent-road, in forming a cutting alongside the Croydon line, to form the above line, and in making an archway under the road, instead of a brick arch. The roadway is excavated, and the crown formed of massy iron girders, covered with large plates of the same metal. The cutting a little beyond is through a very high hill. Several houses, and a great portion of a large nursery ground, will be cleared away to make room. The valley was formerly the bed of a small river, which was turned to form the Croydon line.

Labour on Railways.—We have obtained returns from about 300 miles of railways now under construction, and we find that on them there are now employed 29,000 men and 3000 horses. This amount comprehends one fourth part only of the lines now in progress of construction; therefore, we may assume 120,000 men and 12,000 horses as the total number employed. The wages paid for these men and horses is 500,000*l.* per week, or 26,000,000*l.* per annum, directly expended on railway wages. This amount consists of wages merely for men directly employed on the line. Half as much again is expended *indirectly* on labour, preparing rails, chairs, stock, &c., for the line, and on land and other materials as much more. We have stated that on 300 miles we have returns at 29,000 men and 3000 horses employed. But this is not the proper quantity required for the labour. We have before us the engineers' returns, by which we find that they require, in order to complete the works in time, an additional supply of nearly 20,000 or that 48,000 men and 5000 horses is the proper numbers that should be employed. Moreover, we find that these additional men must be had in order to do the work already stipulated. These additional men cannot be obtained, and the very attempt to obtain them would merely have the effect of enhancing the cost of the present hands without materially increasing the supply. We see, therefore, that the present supply of hands is deficient—that any attempt to increase the supply would fail, because it would enhance prices beyond all possibility of profitable investment. We do not believe, as an eminent engineer has stated, that present prices are 50 per cent. dearer than this time last year. That is an exaggeration. Prices are, however, kept down only by the wisdom which has hitherto moderated the demand to the means of supply. Let us have an injudicious increase of demand, and prices will at once become preposterous.—*Railway Chronicle.*

Cambridge and Oxford Railway.—The necessary meeting, under the sessional orders of Parliament, for ascertaining the acquiescence or otherwise of a majority of the scripholders, was held at Radley's Hotel, Bridge-street, Blackfriars, on Thursday last, the 28th instant,—William Wilshere, Esq., M.P., in the chair,—who observed that, in the absence of Lord Dacre, it was his duty to preside on the occasion: he apprehended no opposition to their measure, as their prospects were so fair, and their position so promising; the bill had been scrutinised by a searching committee of Parliament, composed of gentlemen who were not interested in the measure, and it had passed purely on its intrinsic merits: any questions from the proprietary he should be most happy to answer.—Mr. Hope (the secretary), informed the meeting that the holders of scrip present represented 12,857 shares—being more than sufficient to constitute a legal meeting; out of which number there were 12,012 assents, and 10 dissentients.—The Solicitor read the marginal heads of the bill, from which it appeared, the capital was 800,000*l.*, in 32,000 shares of 25*l.*—three years were allowed for the entire purchase of the land, and seven years for completion.—J. Phillips, Esq., moved the resolution for proceeding with the construction of the line; when Mr. Snow said, before the resolution was carried, it would be desirable to have some information as to the deposits received, and expenses incurred; when Mr. Hope read a statement of accounts, from which it appeared, that the deposits received amounted to 37,747*l.* 17s. 1d.; and there had been disbursed for fixtures and furniture for office, 88*l.* 2s. 6d.; advertising, 162*l.* 9d.; preliminary expenses, 474*l.* 1d.; Mr. Locke, engineer, 1750*l.*; current expenses, 221*l.* 15s. 5d.; secretary (one year's salary), 300*l.*; obtaining traffic returns, 340*l.* 11s. 6d. —being a total of under 5000*l.*; the deposits paid the Accountant-General were 32,387*l.* 10s.; and the balance remaining in the bankers' hands was 438*l.* 18s.—Mr. Snow said, he was extremely gratified at the statement: he believed so low an amount was unprecedented in the annals of railway making: he knew they were in good hands, and the result was highly creditable to the directors.—The resolutions were carried unanimously, and a vote of thanks passed to the chairman, when the meeting broke up, highly pleased with the proceedings.

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